NCDENR
North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

June 13, 2012

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

David Craig
Detrex Corporation
24901 Northwestern Highway, Suite 410
Southfield, MI 48075

Re: Hazardous Waste Management Permit
Issuance of Draft Permit
Detrex Corporation
EPA ID # NCD 049 773 245

Dear Mr. Craig:

Enclosed is the Hazardous Waste Management Draft Permit for Detrex Corporation. Also enclosed are the Public Notice for the Draft Permit, the Fact Sheets describing operations at Detrex Corporation, a Response to Comments for the first public comment period held September 27, 2009 through November 11, 2009 and a revised copy of the application which will replace any copy of the application which you may have previously received.

As stated in the Public Notice, the public comment period for the Draft Permit will begin on June 17, 2012 and will end August 1, 2012. The public hearing will be held July 17, 2012 at 1:00 in Conference Room 104 at the Matthew Community Center, 100 McDowell Street East, Matthew, North Carolina. The Permit may be issued and become effective on August 1, 2012 if no comments are received. Any comments that are received during the comment period will be considered and, if appropriate, incorporated into the Permit Conditions. Therefore, the Permit decision would be delayed until the response to comments could be completed.

Docket No. 775712

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone\Fax: 919-707-8200 \ Internet: http//:portal.ncdenr.org/web/wm

#1

Please submit in writing any comments you may have on the Draft Permit by the end of the comment period. If you have any questions, please contact Kathy Lawson at (919) 707-8214.

Sincerely,

Elizabeth W. Cannon

Elizabeth W. Cannon
Hazardous Waste Section

Enclosures

cc: Jon D. Johnston, US EPA, Region 4
John Johnston, US EPA, Region 4
Resident Inspector
Harry L. Jones, Sr., County Manager
Curt Walton, City Manager
E. Winters Mabry, M.D., County Health Director
Jason Ridenour, Detrex, Charlotte
Chief Garry McCormick, Charlotte Fire Department
Bill Tingle, Mecklenburg County, Flood Mitigation Program
Kathleen Z. Lawson
Mailing List

rc: Bud McCarty

PUBLIC HEARING FOR DRAFT HAZARDOUS WASTE RENEWAL PERMIT FOR DETREX CORPORATION

This is to notify the public of the issuance by the North Carolina Hazardous Waste Section of a revised draft renewal operating permit for the Detrex Corporation facility located at 3114 Cullman Avenue in Charlotte, North Carolina.

The Public Hearing will be held July 17, 2012 at 1:00 p.m. in Conference Room 104 at the Matthew Community Center, 100 McDowell Street East, Matthew, North Carolina. All attendees will have the opportunity to present five (5) minute oral statements regarding the revised draft renewal permit and/or to submit written comments and data.

In conjunction with the Notice of Public Hearing for the revised draft renewal permit, written comments can also be sent during the public comment period of June 17, 2012 – August 1, 2012 to the following address:

Elizabeth W. Cannon
NC Division of Waste Management
Hazardous Waste Section
MSC 1646
Raleigh, NC 27699-1646

All data submitted by the applicant is part of the administrative record and available for your review Monday through Friday during office hours (9:00 a.m. to 4:00 p.m.). Copies of the revised renewal permit request, the revised draft renewal permit, and a fact sheet are available at the Hazardous Waste Section located at 217 West Jones Street in Raleigh, North Carolina. Call (919) 707-8270 for an appointment before arriving. They can also be found at http://portal,ncdenr.gov/web/wm/hw/news/publicnotice.

A summary of the revised renewal permit follows:

A revised draft renewal operating permit has been prepared for Detrex Corporation, 3114 Cullman Avenue, Charlotte, Mecklenburg County, North Carolina 28206. The permit allows Detrex Corporation to store and treat hazardous waste at the facility under the Resource Conservation and Recovery Act (RCRA) and the North Carolina Hazardous Waste Management Rules. Detrex receives containerized and bulk shipments of hazardous waste for storage in containers and/or treatment at the facility. Waste is treated either by combining and commingling prior to shipment off-site, or combining and commingling for recovery (reclamation) via on-site distillation.

All comments received during the public comment period or at the hearing will be considered in the decision regarding this revised renewal permit. Comments received after the public comment period ends will not be considered. The statutory authority for calling the permit hearing is G.S. 130A-294(f). Applicable State rules are found in the North Carolina Hazardous Waste Management Rules 15A NCAC 13A .0105, .0109, and .0113. These rules adopt the requirements of the Federal Resource Conservation and Recovery Act as amended by the Hazardous and Solid Waste Amendments of 1984.

Anyone desiring additional information may contact Kathy Lawson at:

FACT SHEET

Detrex Corporation
3114 Cullman Avenue
Charlotte, North Carolina 28296

A revised Draft Renewal Permit has been prepared for Detrex Corporation to store and treat hazardous waste at the facility under the Federal Resource Conservation and Recovery Act (RCRA). North Carolina has been authorized by the United States Environmental Protection Agency to administer RCRA including the Hazardous and Solid Waste Amendments (HSWA) of 1984. The State has determined that Detrex Corporation's proposed activities as identified in the application satisfies the full intent of the North Carolina Hazardous Waste Management Rules and Solid Waste Management Act as amended. When finalized this draft permit issued by the State of North Carolina will constitute a complete permit under the Federal Resource Conservation and Recovery Act.

The Detrex Corporation facility is located at 3114 Cullman Avenue, Charlotte in Mecklenburg County. Detrex receives containerized and bulk shipments of hazardous waste for storage in containers and/or treatment at the facility. Waste is treated either by combining and commingling prior to shipment off-site, or combining and commingling for recovery (reclamation) via on-site distillation.

A Draft Renewal Permit for Detrex Corporation was initially public noticed on September 27, 2009 and the public comment period ran through November 11, 2009. A public hearing was held on October 29, 2009 in the Charlotte Main Library Dalton Conference Room at 310 N. Tryon Street in Charlotte, North Carolina. Two comments were received during the public comment period and public hearing concerning Detrex's location within a 100-year floodplain and the proposed steps within the contingency plan to address this situation. In the process of investigating and responding to these comments, the State also asked and received a Technical Opinion from EPA, Region 4 regarding Detrex's ability to continue to operate within the floodplain. As a result of these comments, the contingency plan in the permit application along with several permit conditions regarding the contingency plan, hazard prevention, and monitoring wells have been changed to address the concerns raised in the comments received. In addition the effective term for the operating portion, the storage and treatment of hazardous waste, of the permit has been limited to three years. At the end of three years, Detrex's operating hazardous waste portion of the facility will be required to stop accepting, storing and treating off-site waste under the conditions of their permit and go through final closure. The effective term of the remaining portion of the permit will be ten years to allow Detrex to continue remedial action at the facility. Because of these changes to the application and the draft permit, a second public notice, comment period and public hearing have been scheduled to allow the affected community a chance to review and comment on the revised draft permit and revised application. A copy of the draft Response to Comments is attached to this Fact Sheet.

The North Carolina Hazardous Waste Management Rules require that the public be given a forty-five (45) day period to comment on the draft permit. This forty-five (45) day period will commence on June 17, 2012. The draft permit is available for review during office hours (9:00 a.m. to 4:00 p.m.) Monday through Friday. All data submitted by the applicant, along with a copy of the draft response to comments from the first public hearing, is available as part of the administrative record. Persons wishing to comment on either this permit or the proposed permit conditions or to object to the permit issuance should submit such comments in writing prior to August 1, 2012. All comments received within the forty-five (45) day period will be considered before the final permit decision is made.

Comments should be sent to:

Elizabeth W. Cannon
NC Department of Waste Management
Hazardous Waste Section
MSC 1646
Raleigh, NC 27699-1646

A public hearing to receive comments concerning the issuance of the proposed permit will be held on July 17, 2012 at 1:00 p.m. in Conference Room 104 at the Matthew Community Center, 100 McDowell Street East, Matthew, North Carolina. Attendees may submit a written statement for the official record in addition to their oral statement or they may submit written comments in lieu of making an oral presentation. When a final permit decision is made to either issue, deny, or modify the permit, notice will be given to the applicant and to each person who has submitted written comments or requested notice of the final decision.

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I.D. NUMBER NCD 049 773 245
PERMIT NO. NCD 049 773 245 R2

DATE ISSUED _____

STATE OF NORTH CAROLINA
DIVISION OF WASTE MANAGEMENT
HAZARDOUS WASTE MANAGEMENT PERMIT

Permittee: Detrex Corporation
3114 Cullman Avenue
Charlotte, North Carolina 28296

Owner: Detrex Corporation
24901 Northwestern Highway
Suite 410
Southfield, Michigan 48075

Pursuant to the 15A NCAC 13A North Carolina Hazardous Waste Management Rules, an operating permit is issued to the Detrex Corporation hazardous waste management facility located in the Catawba River Basin in Charlotte, Mecklenburg County on Cullman Avenue, at latitude 35°14'57" and longitude -80°38'45".

The Permittee must comply with all terms and conditions of the permit. This permit consists of the conditions discussed in Parts I, II, III, IV, VIII, IX, X, XI and XII; the applicable regulations contained in 15A NCAC 13A including the applicable provisions of 40 CFR Parts 260 through 264, 266, 268, 270 and 124; statutory requirements of N.C.G.S. 130A-Article 9 (Solid Waste Management Act as amended) and the attached Application.

Applicable regulations are those which are in effect on the date of issuance of this permit [40 CFR 270.32(c) as adopted in 15A NCAC 13A.0113] and are attached.

This permit is based on the assumption that the information submitted in the permit application and as modified by subsequent amendments (hereafter referred to as Attachment 1) is accurate and that the facility will be operated as specified in Attachment 1. Any inaccuracies found in this information could lead to the termination or modification of this permit and potential enforcement action [40 CFR 270.41, 270.42, and 270.43 as adopted in 15A NCAC 13A .0113]. The Permittee shall inform the North Carolina Department of Environment and Natural Resources of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of _____, and shall remain in effect for ten (10) years until _____, [40 CFR 270.50 as adopted in 15A NCAC 13A .0113] unless revoked and reissued, terminated or continued in accordance with 40 CFR 270.51 as adopted in 15A NCAC 13A .0113.

_____ _____
Elizabeth W. Cannon, Chief Date
Hazardous Waste Section

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Appendix A	Summary of Solid Waste Management Units and Areas of Concern
Appendix B	RCRA Facility Investigation (RFI) Workplan Outline
Appendix C	Corrective Measure Study (CMS) Plan Outline
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Attachment 1

Detrex Corporation Hazardous Waste Part B Application

Section	Topic
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PART M	Owner/Operator Certification

Attachment 2

Regulations

15A NCAC 13A	May 17, 2011 Certification

PART I - STANDARD CONDITIONS

A. EFFECT OF PERMIT

The Permittee is allowed to store and treat hazardous waste in accordance with the conditions of this permit until (date). Compliance with this permit constitutes compliance, for purposes of enforcement, with the N.C. Hazardous Waste Management Rules (15A NCAC 13A) and N.C.G.S. 130A-Article 9 (Solid Waste Management Act as amended). Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any action brought under any law governing protection of public health or the environment for any imminent and substantial endangerment to human health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43 as adopted in 15A NCAC 13A .0113. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued under 40 CFR 270.61 as adopted in 15A NCAC 13A .0113. Any permit noncompliance constitutes a violation of N. C. Hazardous Waste Management Rules and N.C.G.S. 130A-Article 9 (Solid Waste Management Act as amended) and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application.

2. Duty to Reapply. The Permittee shall submit a complete application for a new permit at least 180 days before this permit expires. Owners and operators of hazardous waste management units must have a permit during the active life of the unit and for any period necessary to comply with the corrective action requirements of this permit. The Permittee will not be allowed to reapply for a permit to conduct those activities involving the operation of an active treatment, storage and disposal facility as outlined in Parts II, IIa, III and IV of this Permit.

3. Permit Expiration. Parts I, VIII, IX, X and XI and permit conditions II.B., II.E., II.H., II.N., II.T., II.U., II.V. and II.X. of this permit

will remain in effect beyond the permit's expiration date and until a decision is made concerning issuance of a new permit if the Permittee has submitted a timely, complete application at least 180 days before the expiration date of the permit (see 15A NCAC 13A .0113(b), (c), (d), and (e) as required) and through no fault of the Permittee, the Secretary of the Department of Environment and Natural Resources or his designee (hereafter referred to as the Department) has not issued a new permit as set forth in 40 CFR 124.15 as adopted in 15A NCAC 13A .0105.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

6. Proper Operation and Maintenance. The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. The Permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. The Permittee shall allow the Department or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

   a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

   d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the N.C. Hazardous Waste Management Rules, any substances or parameters at any location.

9. Monitoring and Records.

   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261 as adopted in 15A NCAC 13A .0106 and as stated in Sections C, D, F, G, H, I and L of Attachment 1. Laboratory methods must be those specified in Section C of Attachment 1.

   b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least three (3) years from the date of the sample, measurement, report or record. These periods may be extended by request of the Department at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

   c. Records of monitoring information shall include:

      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.

10. Reporting Planned Changes. The Permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility, including alterations or additions which may impact any Hazardous Waste Management Units (HWMUs), Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), or the areas contaminated by them, including voluntary corrective measures to the SWMUs or AOCs listed in Appendix A at the permitted facility as defined in 40 CFR 270.2 as adopted in 15A NCAC 13A .0113.

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

12. Transfer of Permits. This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR 270.40, 270.41 and 270.42 as adopted in 15A NCAC 13A .0113. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR 264 as adopted in 15A NCAC 13A .0109 and 40 CFR 270 as adopted in 15A NCAC 13A .0113.

13. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

14. Twenty-four Hour Reporting. The Permittee shall report to the Department any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. The following shall be included as information which must be reported orally within 24 hours:

    a. Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

    b. Any information of a release or discharge of hazardous waste, or of a fire or explosion from the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

        i. Name, address, and telephone number of the owner or operator;
        ii. Name, address, and telephone number of the facility;
        iii. Date, time, and type of incident;
        iv. Name and quantity of material(s) involved;
        v. The extent of injuries, if any;
        vi. An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
        vii. Estimated quantity and disposition of recovered material that resulted from the incident.

    A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times), and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee need not comply with the five-day written notice requirement if the Department waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.

15. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported at the time monitoring reports are submitted. The reports shall contain the information listed in Condition I.D.14.

16. Other Information. When the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Department, the Permittee shall promptly submit such facts or information.

E. SIGNATORY REQUIREMENTS

All reports or other information requested by the Department shall be signed and certified according to 40 CFR 270.11 as adopted in 15A NCAC 13A .0113.

F. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE

1. The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

   a. Waste analysis plan submitted in accordance with 40 CFR 264.13 as adopted in 15A NCAC 13A .0109 and Section C of Attachment 1.

   b. Personnel training documents and records submitted in accordance with 40 CFR 264.16(d) as adopted in 15A NCAC 13A .0109 and Section H of Attachment 1.

   c. Contingency plan submitted in accordance with 40 CFR 264.53(a) as adopted in 15A NCAC 13A .0109 and Section G of Attachment 1.

   d. Closure plan submitted in accordance with 40 CFR 264.112(a) as adopted in 15A NCAC 13A .0109 and Section I of Attachment 1.

   e. Cost estimate for facility closure and corrective action submitted in accordance with 40 CFR 264.142(d) and 40 CFR 264.101 as adopted in 15A NCAC 13A .0109 and Attachment I-5 of Attachment 1.

   f. Operating record required by 40 CFR 264.73 as adopted in 15A NCAC 13A .0109 and Sections C, D, F, G, H, I and L of Attachment 1.

   g. Inspection schedules developed in accordance with 40 CFR 264.15(b) as adopted in 15A NCAC 13A .0109 and Section F of Attachment 1.

2. The Permittee shall maintain at the facility, until corrective action is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be an appropriate method or an equivalent method approved by the Department. Laboratory methods must be those specified in the most recent edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, or an equivalent method approved by the Department.

   b. The Permittee shall retain records of all monitoring information required under the terms of this permit (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), records of all data used to prepare documents required by this permit, copies of all reports and records required by this permit, the certification required by 40 CFR 264.73(b)(9) as adopted in 15A NCAC 13A .0109, and records of all data used to complete the application for this permit for a period of at least three (3) years from the date of the sample, measurement, report or record, or until corrective action is completed, whichever date is later. As a generator of hazardous waste, the Permittee shall retain on-site a copy of all notices, certifications, demonstrations, waste analysis data, and other documents produced pursuant to 40 CFR 268 as adopted in 15A NCAC 13A .0112 for at least five years from the date that the waste

which is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal, or until corrective action is completed, whichever date is later. These periods may be extended by request of the Department at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

c. Records of monitoring information shall include:

i. The date, exact place, and time of sampling or measurements;
ii. The individual(s) who performed the sampling or measurements;
iii. The date(s) analyses were performed;
iv. The individual(s) who performed the analyses;
v. The analytical techniques or methods used; and
vi. The results of such analyses.

All amendments, revisions and modifications to any plan or cost estimates required by this permit shall be submitted to the Department for approval and/or permit modifications.

G. BIENNIAL REPORT

The Permittee shall prepare and submit a biennial report by March 1 of each even numbered year in accordance with 40 CFR 264.75 as adopted in 15A NCAC 13A .0109 and as required by the NC Hazardous Waste Section. The report must cover facility activities during the previous calendar year.

H. MANIFEST SYSTEM

1. The Permittee shall utilize the manifest system when receiving hazardous waste from off-site in accordance with 40 CFR 264.71 as adopted in 15A NCAC 13A .0109 unless the Permittee submits an un-manifested waste report in accordance with 40 CFR 264.76 as adopted in 15A NCAC 13A .0109.

2. The Permittee shall report any manifest discrepancies in accordance with 40 CFR 264.72 as adopted in 15A NCAC 13A .0109.

I. DOCUMENTS TO BE SUBMITTED PRIOR TO OPERATION

Reserved.

J. DEFINITIONS

For purposes of this permit, terms used herein shall have the same meaning as those in the North Carolina Hazardous Waste Management Rules and Solid Waste Management Law unless this permit specifically provides otherwise; where terms are not defined in 15A NCAC 13A, G.S. 130A - Article 9, the permit, or United States Environmental Protection Agency guidance documents and publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

Corrective Action shall be defined as all activities including activities conducted beyond the facility boundary, that are proposed or implemented

to facilitate assessment, monitoring, and active or passive remediation of releases of hazardous waste or hazardous constituents to soil, groundwater, surface water, or the atmosphere associated with Hazardous Waste Management Units (HWMUs), Solid Waste Management Units (SWMUs), and/or Areas of Concern (AOCs) located at the facility or off-site, as required by 40 CFR 264.100 and 264.101 and adopted in 15A NCAC 13A .0109 or as otherwise required and specified by this permit.

K. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR 270.12 as adopted in 15A NCAC 13A .0113.

L. APPROVAL/DISAPPROVAL OF SUBMITTALS

The Department will review the workplans, reports, schedules, and other documents ("submittals") which require the Department's approval in accordance with the conditions of this permit. The Department will notify the Permittee in writing of any submittal that is disapproved, and the basis therefore. Condition I.M. shall apply only to submittals that have been disapproved and revised by the Department, or have been disapproved by the Department, then revised and resubmitted by the Permittee, and again disapproved by the Department.

M. DISPUTE RESOLUTION

Notwithstanding any other provisions in this permit, in the event the Permittee disagrees, in whole or in part, with the Department's revision of a submittal or disapproval of any revised submittal required by the permit, the following may, at the Permittee's discretion, apply:

1. In the event that the Permittee chooses to invoke the provisions of this section, the Permittee shall notify the Department in writing within thirty (30) days of receipt of the Department's revision of a submittal or disapproval of a revised submittal. Such notice shall set forth the specific matters in dispute, the position the Permittee asserts should be adopted as consistent with the requirements of the permit, the basis for the Permittee's position, and any matters considered necessary for the Department's determination.

2. The Department and the Permittee shall have an additional thirty (30) days from the Department's receipt of the notification provided for in Condition I.M.1. to meet or confer to resolve any disagreement.

3. In the event an agreement is reached, the Permittee shall submit the revised submittal and implement the same in accordance with and within the time frame specified in such agreement.

4. If agreement is not reached within the thirty (30) day period, the Department will notify the Permittee in writing of his/her decision on the dispute, and the Permittee shall comply with the terms and conditions of the Department's decision in the dispute. For the purposes of this provision in this permit, the responsibility for making this decision shall not be delegated below the Chief of the Hazardous Waste Section.

Invoking any of the dispute resolution procedures of this section does not preclude the Permittee from exercising any of its other rights to petition for a contested case hearing or appeal in accordance with N.C. General Statute 150B. Nor does invoking any of the dispute resolution procedures of this section extend or delay the time periods in which the Permittee must exercise any of those other rights to petition or appeal.

5. With the exception of those conditions under dispute, the Permittee shall proceed to take any action required by those portions of the submission and of the permit that the Department determines are not affected by the dispute.

N. SPECIAL CONDITION

Three years from (date), the effective date of this permit, the permittee will cease acceptance of all wastes listed in Permit Condition II.A. and immediately begin closure of the storage and treatment units described in Parts III and IV of this Permit and all operating portions of the facility as outlined in Permit Condition II.O., Parts III and IV of this Permit and Section I of the attached application.

PART II - GENERAL FACILITY CONDITIONS

A. Authorized Waste. The Permittee is authorized to store and treat the following hazardous wastes or categories of hazardous waste in accordance with the conditions specified in this permit until (date):

Waste Codes	Treatment and Storage Units
F001, F002, F003, F004, F005, F006 D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042 U031, U037, U052, U080, U112, U140, U154, U159, U161, U188, U210, U220, U226, U228, U239 K048, K049, K050, K051, K052, K085	Container Storage (Areas #1 and #2)
D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042	Container Storage (Area #3)
F001, F002, F003, F004, F005, F006 D001, D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042 U031, U037, U052, U080, U112, U140, U154, U159, U161, U188, U210, U220, U226, U228, U239 K048, K049, K050, K051, K052, K085	Container Storage (Area #6)
F001, F002 D004, D005, D006, D007, D008, D009, D010, D011, D039, D040 U080, U210, U226, U228	1,000-gallon Tank (Area #4)
F001, F002 D004, D005, D006, D007, D008, D009, D010, D011, D039, D040 U080, U210, U226, U228	Distillation Unit (Area #5)

Waste Codes	Treatment and Storage Units
F001, F002, F003, F004, F005, F006 D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042 U031, U037, U052, U080, U112, U140, U154, U159, U161, U188, U210, U220, U226, U228, U239 K048, K049, K050, K051, K052, K085	Staging Area (Area #5)

B. Design and Operation of Facility. The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil or surface water which could threaten human health or the environment.

C. Required Notice for Receipt of Off-Site Wastes.

1. The Permittee shall notify the Department in writing at least four (4) weeks in advance of the date the Permittee expects to receive hazardous waste from a source outside of the United States. Notice of subsequent shipments during the same calendar year of the same waste from the same foreign source is not required.

2. When the Permittee receives hazardous waste from an off-site source (except where the Permittee is also the generator), he must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The Permittee shall keep a copy of this written notice as part of the operating record.

D. General Waste Analysis. The Permittee shall follow the procedures described in the waste analysis plan as indicated in Section C of Attachment 1. A minimum of 10 percent or three (3) containers of each waste stream, whichever is greater, will be sampled for analysis. Each compartment of all bulk loads will be sampled for analysis. Each waste stream will also be verified by generator knowledge or analysis annually. Results of these analyses shall be maintained as per 40 CFR 264.13 as adopted in 15A NCAC 13A .0109 and as identified in Condition I.D.9. The Permittee shall verify the waste analysis as part of the quality assurance program. The quality assurance program will be in accordance with current EPA practices or equivalent methods approved by the Department, and at a minimum shall ensure that the Permittee maintains proper functional instruments, uses approved sampling and analytical methods, assures the validity of sampling and analytical procedures, and performs correct calculations.

E. Security. The Permittee shall comply with the security provisions of 40 CFR 264.14(b) and (c) as adopted in 15A NCAC 13A .0109 and Sections B and F of Attachment 1.

F. General Inspection Requirements. The Permittee shall follow the inspection schedule as described in Sections F and L of Attachment 1 and shall comply with 40 CFR 264.15(c) and (d) as adopted in 15A NCAC 13A .0109.

G. Personnel Training. The Permittee shall conduct personnel training in accordance with 40 CFR 264.16 as adopted in 15A NCAC 13A .0109 and as described in Section H of Attachment 1.

H. General Requirements for Ignitable, Reactive, or Incompatible Waste. The Permittee shall comply with the requirements of 40 CFR 264.17(a), (b) and (c) as adopted in 15A NCAC 13A .0109.

I. Required Equipment. The Permittee shall equip the facility and make readily available to operating personnel the necessary equipment to carry out the contingency plan, as described in Sections F and G of Attachment 1. At all times, the equipment requirement described in 40 CFR 264.32 as adopted in 15A NCAC 13A .0109 shall be met.

J. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition and as identified in Sections F and G of Attachment 1 as necessary to ensure its proper operation in time of emergency.

K. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 40 CFR 264.34 as adopted in 15A NCAC 13A .0109.

L. Contingency Plan.

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the contingency plan whenever there is a fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment as required by 40 CFR 264.56 as adopted in 15A NCAC 13A .0109.

2. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR 264.53 as adopted in 15A NCAC 13A.

3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the contingency plan, in accordance with 40 CFR 264.54 as adopted in 15A NCAC 13A .0109 and shall provide documentation that the groups listed in 40 CFR 264.53(b) have received the revised copy of the contingency plan.

4. Emergency Coordinator. The Permittee shall comply with the requirements of 40 CFR 264.55 as adopted in 15A NCAC 13A .0109, concerning the emergency coordinator.

M. Manifest System. The Permittee shall comply with the manifest requirements of 40 CFR 264.71, 264.72, and 264.76 as adopted in 15A NCAC 13A .0109.

N. Record-Keeping and Reporting.

1. Operating Record. The Permittee shall maintain a written operating record at the facility in accordance with 40 CFR 264.73(a), (b)(1), (2), (3), (4), (5), (6), (7), (8), (9), (11), (12), (15), (16), (17), and

(19) as adopted in 15A NCAC 13A .0109 and described in Sections C, D, F, G, H, I, and L of Attachment 1.

2. Biennial Report. The Permittee shall comply with the biennial report requirements of 40 CFR 264.75 as adopted in 15A NCAC 13A .0109 and as amended by 15A NCAC 13A .0101(b)(3).

O. Closure.

1. Performance Standard. The Permittee shall close the facility in accordance with the closure plan as described in Section I of Attachment 1 and as required by 40 CFR 264.111 as adopted in 15A NCAC 13A .0109.

2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 40 CFR 264.112(c) as adopted in 15A NCAC 13A .0109 whenever necessary.

3. Notification of Closure. The Permittee shall notify the Department in writing at least forty-five (45) days prior to the date he expects to begin closure.

4. Time Allowed For Closure. Within ninety (90) days after receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste in accordance with the schedule specified in the closure plan. After receiving the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the closure plan in Section I of Attachment 1.

5. Disposal or Decontamination of Equipment. The Permittee shall comply with the requirements of 40 CFR 264.114 as adopted in 15A NCAC 13A .0109.

6. Certification of Closure. The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan as required by 40 CFR 264.115 as adopted in 15A NCAC 13A .0109.

P. Cost Estimate for Facility Closure. The Permittee shall comply with the requirements of 40 CFR 264.142 as adopted in 15A NCAC 13A .0109, including the requirements to adjust and revise the cost estimates, when necessary. The Permittee's closure cost estimate is described in Attachment I-4 of Attachment 1.

Q. Financial Assurance for Facility Closure. The Permittee shall demonstrate continuous compliance with 15A NCAC 13A .0109(i) including 40 CFR 264.143 as adopted in 15A NCAC 13A .0109, or where applicable with 40 CFR 264.146, 264.149, 264.150, and 264.151 as adopted in 15A NCAC 13A .0109 by providing documentation of financial assurance in at least the amount of the cost estimates required by Condition II.P. and Attachment I-5 of Attachment 1.

The financial mechanism used shall be that instrument specified in Attachment I-5 of Attachment 1. The Permittee may propose using a different mechanism by submitting a new financial instrument to the Department for approval. The Permittee must submit this documentation no later than sixty (60) days prior to the effective date of the proposed change. The existing financial mechanism shall remain in force until the change is approved.

R. Liability Requirements. The Permittee shall comply with the requirements of 40 CFR 264.147 as adopted in 15A NCAC 13A .0109, including the requirements to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

The financial mechanism used shall be that instrument specified in Attachment I-5 of Attachment 1. The Permittee may propose using a different mechanism by submitting a new financial instrument to the Department for approval. The Permittee must submit this documentation no later than sixty (60) days prior to the effective date of the proposed change. The existing financial mechanism shall remain in force until the change is approved.

S. Incapacity of Owners or Operators, Guarantors, or Financial Institutions. The Permittee shall comply with 40 CFR 264.148 as adopted in 15A NCAC 13A .0109 whenever necessary.

T. Corrective Action.
The Permittee shall perform corrective action as required in 40 CFR 264.100 and .101 as adopted in 15A NCAC 13A .0109 and the approved remedy in VIII.I of this permit.

U. Cost Estimate for Completion of Corrective Action.

1. The Permittee shall prepare a remedial strategy and a cost estimate for the completion of any corrective action required under this permit for solid waste management units in order to provide financial assurance for completion of corrective action as required under 40 CFR 264.90(a)(2) and 264.101(b) as adopted in 15A NCAC 13A .0109. The remedial strategy shall be a plan for remedies for the adversely impacted areas at the facility and beyond the facility boundary. The level of detail and specificity related to the remedial technologies being considered for the facility shall increase as the facility obtains more information through facility characterization. The cost estimate will be based upon the cost of assessment of soil and groundwater and the installation, operation, inspection, monitoring, and maintenance of the corrective action system for remediation of contaminated soil and/or groundwater to meet the requirements of 40 CFR 264.100 and 264.101 as adopted in 15A NCAC 13A .0109 and this permit. Such cost estimate will include the full cost (100%) of corrective action as defined by Part I.I of this permit.

2. The Permittee shall submit the remedial strategy and cost estimate for completion of corrective action required under 40 CFR 264.90(a)(2), 264.100 and 264.101 as adopted in 15A NCAC 13A .0109 and this permit within one hundred eighty (180) days of the effective date of this permit.

3. The Permittee shall annually adjust the cost estimate for inflation sixty (60) days prior to the anniversary date of the establishment of the financial assurance mechanism unless using a financial test or corporate guarantee, in which case the estimate shall be updated thirty (30) days after the close of the firm's fiscal year.

4. The Permittee shall submit cost adjustments for modifications to the corrective action plan to the Section within thirty (30) calendar days

after receiving approval of the modification if the change increases the cost of corrective action.

V. Financial Assurance for Corrective Action.

1. The Permittee shall demonstrate continuous compliance with 40 CFR 264.90(a)(2) and 264.101 as adopted in 15A NCAC 13A .0109 by providing documentation of financial assurance using a mechanism described in 40 CFR 264.151 and 264.145 as adopted in 15A NCAC 13A .0109 or a mechanism described in 15A NCAC 13A .0109(i) in at least the amount of the cost estimate required under Condition II.U. or for an amount agreed upon by the Department.

2. The Permittee shall submit financial assurance for the full cost of corrective action, or for an amount agreed upon by the Department, as required under 40 CFR 264.90(a)(2), 264.100 and 264.101 as adopted in 15A NCAC 13A .0109 no later than sixty (60) days after the approval of the cost estimate described in II.U of this permit.

3. Only the mechanisms described in 15A NCAC 13A .0109(i) may be used for financial assurance for corrective action. References to regulatory requirements for "closure and/or post-closure care" shall be replaced with the phrase "closure, post-closure care, and/or corrective action."

W. Local Government Input for Contingency Plan.

1. Ongoing Permit Requirements.

At each two year interval after the permit is issued the Permittee shall verify that the resources and equipment of each local government and emergency response agencies that have a role under the contingency plan for the facility are available and adequate to respond to an emergency at the facility in accordance with its role as set forth in the contingency plan. Documentation of the verification must be submitted to the Section on or before the two year anniversary date of the effective date of the permit.

The contact for the local government shall be the county manager in which the facility is located and the head of a municipality with planning jurisdiction over the site of the facility if one exists.

G.S 130A-295(d) - (g)

X. Special Conditions.

1. When a discrepancy exists between the wording of an item in Attachment 1 and this permit, the permit requirements take precedence over Attachment 1.

2. Where a discrepancy exists between the RCRA Facility Assessment (RFA) report (attached as part of the permit) and this permit as to the future requirements to be taken at the facility, the permit requirements take precedence over the requirements reflected in the report.

3. The Permittee shall comply with the Floodplain Regulations of Mecklenburg County and the Code of the City of Charlotte, Chapter 9 - the Floodplain Regulations of Charlotte North Carolina.

4. Any monitoring well installed for the purposes of corrective action whose head becomes submerged during a flood event must be redeveloped prior to the next sampling event.

Part IIa - Commercial Facility Conditions

A. General

The Permittee shall provide and maintain such appropriate and secure offices and laboratory facilties as the Department may require for the use of the resident inspectors required by GS 130A-295.02(a).

B. Off site information

The Permittee shall maintain a record of information at an off-site location that identifies the generators of the waste and the quantity, type, location, and hazards of the waste at the facility and shall make this information available in a form and manner to be determined by the Department, accessible to the Department, to the county in which the facility is located, to any municipality with planning jurisdiction over the site of the facility, and to emergency response agencies that have a role under the contingency plan for the facility. G.S 130A-295.01(d)

C. Notification by Commercial Hazardous Waste Facility.

1. The Permittee shall publish a notice annually beginning one year after the effective date of the permit. The notice shall be published in a form and manner approved by the Department in a newspaper of general circulation in the community where the facility is located. The notice shall include all of the following:

   a. The location of the facility.

   b. A description of the facility.

   c. The hazardous and nonhazardous wastes that are to be received and processed at the facility.

   d. A description of the emergency response plan for the facility.

2. The Permittee shall provide the information set out in IIa.C.1.a. through d. of the permit by mail at the midpoint of the period for which the permit is issued to every person who resides or owns property located within one-fourth mile of any property boundary of the facility that the application has been filed.

3. Within 30 days of each requirement the Permittee shall provide documentation to demonstrate to the Section that the requirements set out in IIa.C.1 through 2 of the permit have been met.

G.S. 130A-295.01(e)

E. Changes to Surrounding Land Use

No later than 31 January of each year, the Permittee shall report to the Section any increase or decrease in the number of sensitive land uses and any increase or decrease in estimated population density based on information provided by the local government that has planning jurisdiction over the site on which the facility is located that occurred during the previous calendar year in the area located within one-fourth mile of any property boundary of

the facility. Changes shall be recorded in the operating record of the facility.
G.S. 130A-295.01(f)

F. 24 Hour Security and Surveillance

The Permittee shall provide a security and surveillance system at the facility 24 hours a day, seven days a week in order to continuously monitor site conditions and to control entry. The security and surveillance system shall be capable of promptly detecting unauthorized access to the facility; monitoring conditions; identifying operator errors; and detecting any discharge that could directly or indirectly cause a fire, explosion, or release of hazardous waste or hazardous waste constituents into the environment or threaten human health.
G.S. 130A-295.01(g)

G. On-site wind monitor

The Permittee shall install and maintain an on-site wind monitor approved by the Department. The wind monitor required shall be located so that the real-time wind direction can be determined from a remote location in the event of a release of hazardous waste or hazardous waste constituents into the environment.
G.S. 130A-295.01(g)

H. Special Condition

The permit conditions in Part IIa will remain in effect until the closure of the commercial treatment, storage and disposal facility required by permit condition I.N is certified as complete.

PART III - STORAGE/TREATMENT IN CONTAINERS

Unit Name	Type of Unit	Wastes Managed in Units	Maximum Capacity (gallons)	Size (square feet)
Area #1	Container Storage	F001, F002, F003, F004, F005, F006 D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042 U031, U037, U052, U080, U112, U140, U154, U159, U161, U188, U210, U220, U226, U228, U239 K048, K049, K050, K051, K052, K085	8,800	1,431
Area #2	Container Storage	F001, F002, F003, F004, F005, F006 D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042 U031, U037, U052, U080, U112, U140, U154, U159, U161, U188, U210, U220, U226, U228, U239 K048, K049, K050, K051, K052, K085	6,600	1,360
Area #3	Container Storage	D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042	4,400	596

Unit Name	Type of Unit	Wastes Managed in Units	Maximum Capacity (gallons)	Size (square feet)
Area #6	Container Storage in Tractor Trailers	F001, F002, F003, F004, F005, F006 D001, D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D016, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D032, D034, D035, D037, D038, D039, D040, D041, D042 U031, U037, U052, U080, U112, U140, U154, U159, U161, U188, U210, U220, U226, U228, U239 K048, K049, K050, K051, K052, K085	6,600	352

Area #5 contains the distillation unit and will be used for staging hazardous waste prior to the waste being placed into storage. The maximum amount of waste which may be staged at any one time is 5,280 gallons.

Areas #1, #2, #3 and #5 are inside the building located at 3114 Cullman Avenue. The units consist of the original concrete slab floor with 4 inch thick, 3-1/2 inch high concrete curbing providing the secondary containment. Each containment area will be coated with an impervious coating as specified in D-1a(1) in Attachment 1.

Area #6 is the loading dock area between 3114 and 3124 Cullman Avenue. The hazardous waste will be stored in two tractor trailers parked at the loading dock. Each tractor trailer will be designed with a metal plate which forms a pan having the dimensions of the interior of the trailer. Specifications for the pan are given in Section D-1a(1) of Attachment 1.

Wastes which may be stored in these units are specified in Condition II.A of this permit.

A. Condition of Containers. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this permit.

B. Compatibility of Waste with Containers. The Permittee shall comply with 40 CFR 264.172 as adopted in 15A NCAC 13A .0109 and ensure that the ability of the container to contain the waste is not impaired.

C. Management of Containers. The Permittee shall manage containers in accordance with 40 CFR 264.173 as adopted in 15A NCAC 13A .0109 and as described in Section D of Attachment 1. Containers will be placed on pallets except in Area #6. 55-gallon containers and non-bulk (85-gallon overpack drums or smaller) containers may be stacked two high except in Area #6 where containers shall not be stacked. Totes (300-gallon to 550-gallon containers) shall be stacked only when empty. Containers smaller than 55 gallons shall be stacked to a height not to exceed 45 inches on a pallet. Pallets of

smaller containers may be stacked two high as long as the containers on the underlying pallet are all the same size.

D. Inspections. The Permittee shall inspect container storage areas in accordance with 40 CFR 264.174 as adopted in 15A NCAC 13A .0109 and as described in Sections F and L of Attachment 1.

E. Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR 264.35 as adopted in 15A NCAC 13A .0109. A minimum aisle space of twenty-four (24) inches between rows of pallets of containers or double rows of containers shall be maintained at all times.

F. Containment. The Permittee shall comply with the requirements of a containment system found in 40 CFR 264.175(b)(1)-(5) as adopted in 15A NCAC 13A .0109, including having a base which is free of cracks and gaps and is able to contain leaks, spills and accumulated rainfall until such time that the material is detected and removed. The containment system must be designed for efficient drainage and have sufficient capacity to contain 10% of the total volume of containers. The Permittee shall maintain the containment system in accordance with Section D of Attachment 1.

G. Special Requirements for Ignitable or Reactive Waste. The Permittee shall not locate containers holding ignitable or reactive waste within 200 feet of the facility's property line in accordance with 51A NCAC 13A .0109 (r)(2)d.

H. Special Requirements for Incompatible Waste.

1. The Permittee shall not place incompatible wastes in the same container.

2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

3. The Permittee shall not store a container of hazardous waste that is incompatible with any waste or material stored nearby in other containers, piles, open tanks or surface impoundments unless the container is separated from the other materials by a dike, berm, wall, or other device.

I. Closure. Closure of the units described in Permit Condition III will begin on (date). The Permittee shall follow the closure plan as described in Section I of Attachment 1 and shall comply with 40 CFR 264.178 as adopted in 15A NCAC 13A .0109.

J. Reporting Requirement.

1. Within thirty (30) days of the effective date of this permit, the Permittee must submit a report documenting the application of the new sealant or repair of the existing sealant noted in the "Revised Report of Assessment of Floor and AST Integrity" dated April 17, 2009.

K. Special Conditions.

1. A minimum aisle space of twenty-four (24) inches between rows of pallets of containers or double rows of containers shall be maintained at all times.

2. At the first sign of a potential flood event and at the end of each work day, the Permittee will ensure that all containers are double stacked in accordance with Permit Condition III.C and Attachment G-7 of the Application.

3. At the first sign of a potential flood event and at the end of each work day, the Permittee will ensure that the trailer doors in Area #6 are closed and locked and the trailers will be secured to the docking area by a manner of tie-down agreed upon by the Permittee and the Department. The manner of tie-down shall be decided upon and implemented by the effective date of this Permit.

PART IV - STORAGE/TREATMENT IN TANKS

The 1,000-gallon feed tank is an aboveground, vertical, cone bottom, 12 gauge T304 stainless steel tank with a 20" diameter steel manway. The tank will be used to store and treat chlorinated solvents as listed in Condition II-A of this permit. The tank is located in Area #4 within the building at 3114 Cullman Avenue. The tank is supported by four 3'-long legs and is of 5'-4" in diameter with a height of 6'. The tank shall be fitted with fill lines as specified in Section D-2 of Attachment 1.

Waste is pumped directly into the tank from containers or tanker trucks. The tank shall be operated at ambient pressure and temperature. Waste is then pumped directly to the LUWA distillation unit through a permanent piping system. The tank is also fitted with level indicators and high level alarms as specified in Section D-2d of Attachment 1 to prevent over filling.

The secondary containment (Area #4) consists of the original concrete slab floor with the addition of 4" wide by 3-1/2" high curbs. The concrete is coated with an impervious coating as specified in D-1a(1) in Attachment 1. The secondary containment's capacity is 1,039.5 gallons, or 103.9 % of the tank located within the containment area.

The LUWA distillation unit is tank-like with a holding capacity of 55 gallons and a treatment capacity of 100 gallons per hour. It is used to treat the solvents stored in the 1,000-gallon feed tank. The LUWA is connected to the feed tank via overhead pipes. It is equipped with both automatic and manual valves to regulate the flow of waste to the unit. It is located in Area #5. This secondary containment consists of the original concrete slab floor with the addition of 4" wide by 3-1/2" high curbs. The concrete will be coated with an impervious coating as specified in D-1a(1) in Attachment 1. The secondary containment's capacity is 7,763 gallons, or 267% of the LUWA located with the secondary containment.

A. Design of Tanks.
The Permittee shall maintain all tanks in accordance with Section D of Attachment 1.

B. Secondary Containment and Integrity Assessments.

1. The Permittee shall comply with 40 CFR 264.193(b)-(f) as adopted in 15A NCAC 13A .0109 and design, construct, and operate the secondary containment system in accordance with the detailed design plans described in Section D of Attachment 1.

C. General Operating Requirements.

1. The Permittee shall not place hazardous wastes or treatment reagents in the tank system if they could cause the tank, its ancillary equipment, or a containment system to rupture, leak, corrode, or otherwise fail.

2. The Permittee shall prevent spills and overflows from the tank or containment systems using the methods described in 40 CFR 264.194(b) as adopted in 15A NCAC 13A .0109 and in Section D of Attachment 1.

D. Response to Leaks or Spills.

In the event of a leak or a spill from the tank and/or secondary containment system, or if a system becomes unfit for continued use, the Permittee shall comply with 40 CFR 264.196 as adopted in 15A NCAC 13A .0109 and remove the system from service immediately and complete the following actions:

1. Stop the flow of hazardous waste into the system and inspect the system to determine the cause of the release;

2. Remove the waste and accumulated precipitation from the system within twenty-four (24) hours of the detection of the leak to prevent further release and to allow inspection and repair of the system. If the Permittee finds that it will be impossible to meet this time period, the Permittee must notify the Department and demonstrate that the longer time period is required;

3. Contain visible releases to the environment. The Permittee shall immediately conduct a visual inspection of all releases to the environment and based on that inspection: (a) prevent further migration of the leak or spill to soils or surface water and (b) remove and properly dispose of any visible contamination of the soil or surface water;

4. Close the system in accordance with the closure plan as described on Section I of Attachment 1, unless the following actions are taken:

   a. For a release caused by a spill that has not damaged the integrity of the system, the Permittee shall remove the released waste and make any necessary repairs of the system before returning the tank system to service;

   b. For a release caused by a leak from the primary tank system to the secondary containment system, the Permittee shall repair the primary system prior to its return to service;

   c. For a release to the environment caused by a leak from a component of the tank system that is below ground and does not have secondary containment, the Permittee must provide this component with secondary containment that meets the requirements of 40 CFR 264.193 as adopted in 15A NCAC 13A .0109 before the component can be returned to service;

   d. For a release to the environment caused by a leak from the aboveground portion of the tank system that does not have secondary containment, and can be visually inspected, the Permittee shall repair the tank system before its return to service;

   e. For a release to the environment caused by a leak from the portion of the tank system component that is not readily available for visual inspection, the Permittee shall provide secondary containment that meets the requirements of 40 CFR 264.193 as adopted in 15A NCAC 13A .0109 before the component can be returned to service;

   f. If the Permittee replaces a component of the tank system to eliminate the leak, that component must satisfy the requirements for new tank systems or components in 40 CFR 264.192 and 264.193 as adopted in 15A NCAC 13A .0109.

5. For all major repairs to eliminate leaks or restore the integrity of the tank system, the Permittee must obtain a certification by an independent, qualified, registered professional engineer that the repaired system is capable of handling hazardous wastes without release for the intended life of the system before returning the system to service.

E. Inspections.

1. The Permittee shall inspect the tank systems in accordance with 40 CFR 264.195 as adopted in 15A NCAC 13A .0109 and the inspection schedule in Section F of Attachment 1. The Permittee shall also develop and follow a procedure for inspecting overfill controls.

2. The Permittee shall inspect the following components of the tank system once each operating day:

   a. Aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

   b. Data gathered from monitoring and leak detection equipment (e.g. pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

   c. The area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, to detect erosion or signs of releases of hazardous waste.

3. The Permittee shall inspect cathodic protection systems, in accordance with 40 CFR 264.195(c) as adopted in 15A NCAC 13A .0109 and the following schedule:

   a. The proper operation of the cathodic protection system must be confirmed within six (6) months from initial installation and annually thereafter; and

   b. All sources of impressed current must be inspected and tested every other month.

4. The Permittee shall document compliance with Conditions IV.E.2. and IV.E.3. and place this documentation in the operating record for the facility.

F. Notifications and Recordkeeping.

1. The Permittee shall report to the Department within twenty-four (24) hours of detection when a leak or spill occurs from the tank or secondary containment system to the environment as described in 40 CFR 264.196(d)(1) as adopted in 15A NCAC 13A .0109.

2. Within thirty (30) days of release detection, the Permittee shall report to the Department the information in 40 CFR 264.196(d)(3) as adopted in 15A NCAC 13A .0109.

3. The Permittee shall submit to the Department all certifications of major repairs to correct leaks within seven (7) days from returning the tank system to use.

4. The Permittee shall obtain and keep on file at the facility the written statements by those persons required to certify the design and installation of the tank system as required by 40 CFR 264.192(g) as adopted in 15A NCAC 13A .0109.

5. The Permittee shall keep on file at the facility the written assessment of the tank systems' integrity as required by 40 CFR 264.191(a) as adopted in 15A NCAC 13A .0109.

G. Closure and Post-Closure Care.

1. Closure of the units described in Permit Condition IV will begin on (date). The Permittee shall follow the closure plan as described in Section I of Attachment 1 and shall comply with 40 CFR 264.197 as adopted in 15A NCAC 13A .0109.

2. If the Permittee demonstrates that not all contaminated soils can be practicably removed or decontaminated in accordance with the closure plan, then the Permittee shall close the tank system(s) and submit a post-closure plan in accordance with 40 CFR 264.197(b) and (c) as adopted in 15A NCAC 13A .0109.

H. Special Requirements for Ignitable or Reactive Wastes.

1. The Permittee shall not place ignitable or reactive waste in a tank.

2. The Permittee shall comply with the requirements of 40 CFR 264.198(b) as adopted in 15A NCAC 13A .0109.

I. Special Requirements for Incompatible Wastes.

1. The Permittee shall not place incompatible wastes in the same tank.

2. The Permittee shall not place hazardous waste in an unwashed tank which previously held an incompatible waste or material.

J. Special Conditions.

1. The Permittee must document each inspection during the unloading of bulk loads into the feed tanks in the operating record per the requirements of 40 CFR 264.15 as adopted in 15A NCAC 13A .0109.

2. At the first sign of a potential flood event and at the end of each work day, the Permittee will ensure that the Feed Tank in Area #4 is at least one third full as specified in Figure G-7 of the Application.

PART V - RESERVED

PART VI - RESERVED

PART VII - RESERVED

PART VIII - CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS (SWMUs) AND AREAS OF CONCERN (AOCs)

The purpose of this section is to provide the facility direction to:

1) perform a RCRA Facility Investigation to determine fully the nature and extent of any release of hazardous waste and/or hazardous constituents at or from the Facility;

2) perform a Corrective Measures Study to identify and evaluate alternatives for the corrective measures necessary to prevent, mitigate, and/or remediate any releases of hazardous wastes or hazardous constituents at or from the Facility;

3) implement the corrective measure or measures selected by the Facility and approved by the State; and

4) perform any other activities necessary to correct or evaluate actual or potential threats to human health and/or the environment resulting from the release or potential release of hazardous waste or hazardous constituents at or from the Facility.

It is understood that some of the information that is required in this Section has either been submitted or is in process.

A. APPLICABILITY

The Conditions of this Part apply to:

1. The solid waste management units (SWMUs) and areas of concern (AOCs) identified in Appendix A of the permit, which require a RCRA Facility Investigation (RFI).

2. The SWMUs and AOCs identified in Appendix A which require no further investigation at this time or are addressed under the permit.

3. The SWMUs and AOCs identified in Appendix A which require confirmatory sampling.

4. Any additional SWMUs or AOCs discovered during the course of ground-water monitoring, field investigations, environmental audits, or other means.

5. Contamination beyond the facility boundary, if necessary. The Permittee shall implement corrective actions beyond the facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Department that, despite the Permittee's best efforts, as determined by the Department, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for completion of such off-site corrective action will be required.

6. The Permittee may deviate from the Conditions of this Part by performing self-directed corrective action with approval from the Director. The Permittee shall sign an agreement specifying conditions of self-directed corrective action which includes reporting requirements and an implementation schedule. If, in the sole discretion of the Director, the Permittee is determined to have failed to abide by the negotiated conditions and schedule in this agreement, the Permittee will be required to follow the Conditions of this Part.

B. DEFINITIONS

For purposes of this Part, the following definitions shall be applicable:

1. The term "area of concern" (AOC) includes any area having a probable release of a hazardous waste or hazardous constituent which is not from a solid waste management unit and is determined by the Department to pose a current or potential threat to human health or the environment. Such areas of concern may require investigations and remedial action as required under Section 3005 (c)(3) of the Resource Conservation and Recovery Act and 40 CFR 270.32 (b)(2) as adopted in 15A NCAC 13A .0113 in order to insure adequate protection of human health and the environment.

2. Corrective Action shall be defined as all activities including activities conducted beyond the facility boundary, that are proposed or implemented to facilitate assessment, monitoring, and active or passive remediation of releases of hazardous waste or hazardous constituents to soil, groundwater, surface water, or the atmosphere associated with Hazardous Waste Management Units (HWMUs), Solid Waste Management Units (SWMUs), and/or Areas of Concern (AOCs) located at the facility or off-site, as required by 40 CFR 264.100 and 264.101 and adopted in 15A NCAC 13A .0109 or as otherwise required and specified by this permit.

3. A "Corrective Action Management Unit" (CAMU)includes any area within a facility that is designated by the Department under part 264 Subpart S, for the purpose of implementing corrective action requirements under 40 CFR 264.101 as adopted in 15A NCAC 13A .0109 and RCRA section 3008(h). A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

4. "Corrective measures" include all corrective action necessary to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any area of concern or solid waste management unit at the facility, regardless of the time at which waste was placed in the unit, as required under 40 CFR 264.101 as adopted by 15A NCAC 13A .0109. Corrective measures may address releases to air, soils, surface water or ground water.

5. "Extent of contamination" is defined as the horizontal and vertical area in which the concentrations of the hazardous constituents in the environmental media are above detection limits or background concentrations indicative of the region, whichever is appropriate as determined by the Department.

6. "Facility" includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing,

or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g. one or more landfills, surface impoundments, or combination of them). For the purposes of implementing corrective action under 40 CFR 264.101 as adopted in 15A NCAC 13A .0109, a facility includes all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA.

7. A "hazardous constituent" for the purposes of this Part are those substances listed in 40 CFR Part 261 Appendix VIII as adopted in 15A NCAC 13A .0106 or 40 CFR 264 Appendix IX as adopted in 15A NCAC 13A .0109.

8. "Interim Measures" are actions necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented.

9. The term "land disposal" means placement in or on the land except for a CAMU and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, underground mine or cave, or concrete vault or bunker intended for disposal purposes.

10. "Landfill" includes any disposal facility or part of a facility where waste is placed in or on the land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit.

11. A "release" for purposes of this Part includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents.

12. "Remediation waste" includes all solid and hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under 40 CFR 264.101 as adopted in 15A NCAC 13A .0109 and RCRA section 3008 (h). For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing RCRA sections 3004 (v) or 3008 (h) for releases beyond the facility boundary.

13. The term "solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permits under Section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

14. A "solid waste management unit" (SWMU) for the purposes of this Part includes any unit which has been used for the treatment, storage, or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for management of solid waste. RCRA regulated hazardous waste management units are also solid waste management units. Solid Waste Management Units include areas which have become contaminated by routine and systematic releases of hazardous waste or hazardous constituents, excluding one-time accidental spills that are immediately remediated and cannot be linked to solid waste management activities (e.g., product or process spills).

15. A "Temporary Unit" (TU) includes any temporary tanks and/or container storage areas used solely for treatment or storage of hazardous remediation wastes during specific remediation activities. Designated by the Department, such units must conform to specific standards, and may only be in operation for a period of time as specified in this permit.

16. A "unit" for the purposes of this Part includes, but is not limited to, any landfill, surface impoundment, waste pile, land treatment unit, incinerator, injection well, tank, container storage area, septic tank, drain field, waste water treatment unit, elementary neutralization unit, transfer station, or recycling unit.

C. NOTIFICATION AND ASSESSMENT REQUIREMENTS FOR NEWLY IDENTIFIED SWMUs AND AOCs

1. The Permittee shall notify the Department in writing, within fifteen (15) calendar days of discovery, of any additional SWMUs as discovered under Condition VIII.A.4.

2. The Permittee shall notify the Department in writing, within fifteen (15) calendar days of discovery, of any Areas of Concern (AOCs) as discovered under Condition VIII.A.4. The notification shall include, at a minimum, the location of the AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents released, magnitude of release, etc.). If the Department determines that further investigation of an AOC is required, the Permittee shall be required to prepare a plan for such investigations as outlined in Condition VIII.E.1. or Condition VIII.F.1.

3. The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of notification, a SWMU Assessment Report (SAR) for each SWMU identified under Condition VIII.C.1. At a minimum, the SAR shall provide the following information:

   a. Location of unit(s) on a topographic map of appropriate scale such as required under 40 CFR 270.14(b)(19) as adopted in 15A NCAC 13A .0113.

   b. Designation of type and function of unit(s).

   c. General dimensions, capacities and structural description of unit(s) (supply any available plans/drawings).

   d. Dates that the unit(s) was operated.

e. Specification of all wastes that have been managed at/in the unit(s) to the extent available. Include any available data on hazardous constituents in the waste.

f. All available information pertaining to any release of hazardous waste or hazardous constituents from such unit(s) (to include ground-water data, soil analyses, air, and/or surface water data).

4. Based on the data in the SAR, the Department shall determine the need for further investigations at the SWMUs covered in the SAR. If the Department determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in Condition VIII.E.1. or VIII.F.1.

D. NOTIFICATION REQUIREMENTS FOR NEWLY DISCOVERED RELEASES AT PREVIOUSLY IDENTIFIED SWMUs AND AOCs

1. The Permittee shall notify the Department in writing of any newly discovered release(s) of hazardous waste or hazardous constituents discovered during the course of ground-water monitoring, field investigations, environmental audits, or other means, within fifteen (15) calendar days of discovery. Such newly discovered releases may be from SWMUs or AOCs identified in Condition VIII.A.2. or SWMUs or AOCs identified in Condition VIII.A.3.

2. If the Department determines that further investigation of the SWMUs or AOCs is needed, the Permittee shall be required to prepare a plan for such investigations as outlined in Condition VIII.F.1.b.

E. CONFIRMATORY SAMPLING (CS)

1. The Permittee shall prepare and submit to the Department, within forty-five (45) calendar days of the effective date of the permit or notification by the Department for a newly identified SWMU, a Confirmatory Sampling (CS) Workplan to determine any release from SWMUs and AOCs identified in Condition VIII.A.3. and Appendix A. The CS Workplan shall include schedules of implementation and completion of specific actions necessary to determine a release. It should also address applicable requirements and affected media.

2. The CS Workplan must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the CS Workplan schedule in the letter approving the CS Workplan. If the Department disapproves the CS Workplan, the Department shall either (1) notify the Permittee in writing of the CS Workplan's deficiencies and specify a due date for submission of a revised CS Workplan, or (2) revise the CS Workplan and notify the Permittee of the revisions, or (3) conditionally approve the CS workplan and notify the Permittee of the conditions.

3. The Permittee shall implement the confirmatory sampling in accordance with the approved CS Workplan.

4. The Permittee shall prepare and submit to the Department in accordance with the approved schedule, a Confirmatory Sampling (CS) Report, within sixty (60) calendar days after approval of the CS Workplan, identifying those SWMUs and AOCs listed in Condition VIII.A.3. that have released

hazardous waste or hazardous constituents into the environment. The CS Report shall include all data, including raw data, and a summary and analysis of the data that support the above determination.

5. Based on the results of the CS Report, the Department shall determine the need for further investigations at the SWMUs and AOCs covered in the CS Report. If the Department determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in Condition VIII.F.1.b. The Department will notify the Permittee of any "no further action" decision.

F. RCRA FACILITY INVESTIGATION (RFI)

1. RFI Workplan(s)

a. The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of the approval of the Confirmatory Sampling Report, a RCRA Facility Investigation (RFI) Workplan for those units identified in Condition VIII.A.1. This Workplan shall be developed to meet the requirements of Condition VIII.F.1.c.

b. The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of notification by the Department, an RFI Workplan for those units identified under Condition VIII.C.4., Condition VIII.D.2. or Condition VIII.E.5. This RFI Workplan(s) shall be developed to meet the requirements of Condition VIII.F.1.c.

c. The RFI Workplan(s) shall meet the requirements of Appendix B at a minimum. The Workplan(s) shall include schedules of implementation and completion of specific actions necessary to determine the nature and extent of releases and the potential pathways of contaminant releases to the air, land, surface water, and ground water. The Permittee must provide sufficient justification and/or documentation that a release is not probable if a unit or a media/pathway associated with a unit (ground water, surface water, soil, subsurface gas, or air) is not included in the RFI Workplan(s). Such deletions of a unit, media or pathway from the RFI(s) are subject to the approval of the Department. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix B. Such omissions or deviations are subject to the approval of the Department. The RFI Workplan may be phased to allow for subsequent investigatory activity to be contingent upon the initial phase findings. If the scope of the Workplan(s) is designed to be an initial phase, the initial phase must summarize all potential final phase activities needed to meet the requirements of this condition. In addition, the scope of the RFI Workplan(s) shall include all investigations necessary to ensure compliance with 40 CFR 264.101(c) as adopted in 15A NCAC 13A .0109.

d. The RFI Workplan(s) must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the RFI Workplan schedule in the letter approving the RFI Workplan(s). If the Department disapproves the RFI Workplan(s), the Department shall either (1) notify the Permittee in writing of the RFI Workplan's deficiencies and specify a due date for

submission of a revised RFI Workplan, or (2) revise the RFI Workplan and notify the Permittee of the revisions and the start date of the schedule within the approved RFI Workplan, or (3) conditionally approve the RFI workplan and notify the Permittee of the conditions.

2. RFI Implementation

The Permittee shall implement the RFI(s) in accordance with the approved RFI Workplan(s) and Appendix B. The Permittee shall notify the Department twenty (20) days prior to any sampling activity.

3. RFI Reports

a. If the time required to conduct the RFI(s) is greater than one hundred eighty (180) calendar days, the Permittee shall provide the Department with quarterly RFI Progress Reports (90 day intervals) beginning ninety (90) calendar days from the start date specified by the Department in the RFI Workplan approval letter. The Progress Reports shall contain the following information at a minimum:

i. A description of the portion of the RFI completed;

ii. Summaries of findings;

iii. Summaries of any deviations from the approved RFI Workplan during the reporting period;

iv. Summaries of any significant contacts with local community public interest groups or state government;

v. Summaries of any problems or potential problems encountered during the reporting period;

vi. Actions taken to rectify problems;

vii. Changes to relevant personnel;

viii. Projected work for the next reporting period; and

ix. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

b. The Permittee shall prepare and submit to the Department Draft and Final RCRA Facility Investigation Report(s) for the investigations conducted pursuant to the Workplan(s) submitted under Condition VIII.F.1. The Draft RFI Report(s) shall be submitted to the Department for review in accordance with the schedule in the approved RFI Workplan(s). The Final RFI Report(s) shall be submitted to the Department within thirty (30) calendar days of receipt of the Department's comments on the Draft RFI Report. The RFI Report(s) shall include an analysis and summary of all required investigations of SWMUs and AOCs and their results. The summary shall describe the type and extent of contamination at the facility, including sources and migration pathways, and a description of actual or potential receptors. The Report(s) shall

also describe the extent of contamination (qualitative/ quantitative) in relation to background levels indicative of the area. If the Draft RFI Report is a summary of the initial phase investigatory work, the report shall include a workplan for the final phase investigatory actions required based on the initial findings. Approval of the final phase workplan shall be carried out in accordance with Condition VIII.F.1.d. The objective of this task shall be to ensure that the investigation data are sufficient in quality (e.g., quality assurance procedures have been followed) and quantity to describe the nature and extent of contamination, potential threat to human health and/or the environment, and to support a Corrective Measures Study, if necessary.

c. The Department will review the Final RFI Report(s) and notify the Permittee of the need for further investigative action and/or the need for a Corrective Measures Study to meet the requirements of VIII.H., Appendix C and 40 CFR 264.101 as adopted in 15A NCAC 13A .0109. The Department will notify the Permittee of any "no further action" decision. Any further investigative action required by the Department shall be prepared and submitted in accordance with a schedule specified by the Department and approved in accordance with Condition VIII.F.1.d.

G. INTERIM MEASURES (IM)

1. IM Workplan

a. Upon notification by the Department, the Permittee shall prepare and submit an Interim Measures (IM) Workplan for any SWMU or AOC which the Department determines is necessary. IM are necessary in order to minimize or prevent the further migration of contaminants and limit human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and, if necessary, implemented. The IM Workplan shall be submitted within thirty (30) calendar days of such notification and shall include the elements listed in VIII.G.1.b. Such interim measures may be conducted concurrently with investigations required under the terms of this permit. The Permittee may initiate IM by submitting an IM Workplan for approval and reporting in accordance with the requirements in Condition VIII.G.

b. The IM Workplan shall ensure that the interim measures are designed to mitigate any current or potential threat(s) to human health or the environment and to be consistent with and integrated into any long-term solution at the facility. The IM Workplan shall include: the interim measures objectives, procedures for implementation (including any designs, plans, or specifications), and schedules for implementation.

c. The IM Workplan must be approved by the Department, in writing, prior to implementation. The Department shall specify the start date of the IM Workplan schedule in the letter approving the IM Workplan. If the Department disapproves the IM Workplan, the Department shall either (1) notify the Permittee in writing of the IM Workplan's deficiencies and specify a due date for submission of a revised IM Workplan, or (2) revise the IM Workplan and notify the Permittee of the revisions and the start date of the schedule

within the approved IM Workplan, or (3) conditionally approve the IM Workplan and notify the Permittee of the conditions.

2. IM Implementation

a. The Permittee shall implement the interim measures in accordance with the approved IM Workplan.

b. The Permittee shall give notice to the Department as soon as possible of any planned changes, reductions, or additions to the IM Workplan.

c. Final approval of corrective action required under 40 CFR 264.101 as adopted in 15A NCAC 13A .0109 which is achieved through interim measures shall be in accordance with 40 CFR 270.41 as adopted in 15A NCAC 13A .0113 and Condition VIII.I. as a permit modification.

3. IM Reports

a. If the time required for completion of interim measures is greater than one (1) year, the Permittee shall provide the Department with progress reports at intervals specified in the approved workplan. The Progress Reports shall contain the following information at a minimum:

i. A description of the portion of the interim measures completed;

ii. Summaries of any deviations from the IM Workplan during the reporting period;

iii. Summaries of any problems or potential problems encountered during the reporting period;

iv. Projected work for the next reporting period; and

v. Copies of laboratory/monitoring data.

b. The Permittee shall prepare and submit to the Department, within ninety (90) calendar days of completion of interim measures conducted under Condition VIII.G., an IM Report. The IM Report shall contain the following information at a minimum:

i. A description of interim measures implemented:

ii. Summaries of results;

iii. Summaries of any problems encountered;

iv. Summaries of accomplishments and/or effectiveness of interim measures; and

v. Copies of all relevant laboratory/monitoring data, etc. in accordance with Condition I.D.9.

H. CORRECTIVE MEASURES STUDY

1. Corrective Measures Study (CMS) Workplan

a. The Permittee shall prepare and submit a CMS Workplan for those units requiring a CMS within ninety (90) calendar days of notification by the Department that a CMS is required. This CMS Workplan shall be developed to meet the requirements of Condition VIII.H.1.b.

b. The CMS Workplan shall meet the requirements of Appendix C at a minimum. The CMS Workplan shall include schedules of implementation and completion of specific actions necessary to complete a CMS. The Permittee must provide sufficient justification and/or documentation for any unit identified in accordance with Condition VIII.H.1.a. which is deleted from the CMS Workplan. Such deletion of a unit is subject to the approval of the Department. The CMS shall be conducted in accordance with the approved CMS Workplan. The Permittee shall provide sufficient written justification for any omissions or deviations from the minimum requirements of Appendix C. Such omissions or deviations are subject to the approval of the Department. The scope of the CMS Workplan shall include all investigations necessary to ensure compliance with 3005(c)(3), 40 CFR 264.101 and 40 CFR 264.552 as adopted in 15A NCAC 13A .0109, and 270.32(b) as adopted in 15A NCAC 13A .0113. The Permittee shall implement corrective actions beyond the facility boundary, as set forth in Condition VIII.A.5.

c. The Department shall either approve or disapprove, in writing, the CMS plan. If the Department disapproves the CMS Workplan, the Department shall either (1) notify the Permittee in writing of the CMS Workplan's deficiencies and specify a due date for submittal of a revised CMS Workplan, or (2) revise the CMS Workplan and notify the Permittee of the revisions, or (3) conditionally approve the CMS Work Workplan and notify the Permittee of the conditions. This modified CMS Workplan becomes the approved CMS Workplan.

2. Corrective Measures Study Implementation

The Permittee shall begin to implement the Corrective Measures Study according to the schedules specified in the CMS Workplan, no later than fifteen (15) calendar days after the Permittee has received written approval from the Department for the CMS Workplan. The CMS shall be conducted in accordance with the approved CMS Workplan approved in accordance with Condition VIII.H.1.c.

3. CMS Report

a. The Permittee shall prepare and submit to the Department a draft and final CMS Report for the study conducted pursuant to the approved CMS Workplan. The draft CMS Report shall be submitted to the Department in accordance with the schedule in the approved CMS Workplan. The final CMS Report shall be submitted to the Department within thirty (30) calendar days of receipt of the Department's comments on the draft CMS Report. The CMS Report shall summarize any bench-scale or pilot tests conducted. The CMS

Report must include an evaluation of each remedial alternative. If a remedial alternative requires the use of a CAMU, the CMS report shall include all information necessary to establish and implement the CAMU. The CMS Report shall present all information gathered under the approved CMS Workplan. The CMS Final Report must contain adequate information to support the Department's decision on the recommended remedy, described under Condition VIII.I.

b. If the Department determines that the CMS Final Report does not fully satisfy the information requirements specified under Permit Condition VIII.H.3.a., the Department may disapprove the CMS Final Report. If the Department disapproves the CMS Final Report, the Department shall notify the Permittee in writing of deficiencies in the CMS Final Report and specify a due date for submittal of a revised CMS Final Report. The Department will notify the Permittee of any no further action decision.

c. As specified under Condition VIII.H.3.a., based on preliminary results and the CMS Final Report, the Department may require the Permittee to evaluate additional remedies or particular elements of one or more proposed remedies.

I. REMEDY APPROVAL AND PERMIT MODIFICATION

1. A remedy shall be selected by the Department from the remedial alternatives evaluated in the CMS. The remedy will be based at a minimum on protection of human health and the environment, as per specific site conditions, existing regulations, and guidance.

2. Pursuant to 40 CFR 270.41 as adopted in 15A NCAC 13A .0113, a permit modification will be initiated by the Department upon concurrence of a remedy selected in accordance with Condition VIII.I.1. This modification will serve to incorporate a final remedy, including a CAMU, if necessary, into the permit.

3. Within one hundred and twenty (120) calendar days after this Permit has been modified, the Permittee shall demonstrate financial assurance for completing the approved remedy.

J. MODIFICATION OF THE CORRECTIVE ACTION SCHEDULE OF COMPLIANCE

1. If at any time the Department determines that modification of the Corrective Action Schedule of Compliance is necessary, the Department may initiate a modification to the Schedule of Compliance, Appendix D.

2. Modifications that are initiated and finalized by the Department will be in accordance with the applicable provisions of 40 CFR 270 as adopted in 15A NCAC 13A .0113. The Permittee may also request a permit modification in accordance with 40 CFR 270 as adopted in 15A NCAC 13A .0113.

K. IMMINENT HAZARDS

1. The Permittee shall report to the Department any imminent or existing hazard to public health or the environment from any release of hazardous waste or hazardous constituents. Such information shall be reported orally within 24 hours from such time the Permittee becomes aware of the

circumstances. This report shall include the information specified under Condition I.D.14.

2. A written report shall also be provided to the Department within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. The written report shall contain the information specified under Condition I.D.14. and; a description of the release and its cause; the period of the release; whether the release has been stopped; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the release.

L. WORKPLAN AND REPORT REQUIREMENTS

1. All plans and schedules shall be subject to approval by the Department prior to implementation to assure that such workplans and schedules are consistent with the requirements of this permit and with applicable regulations and guidance. The Permittee shall revise all submittals and schedules as specified by the Department. Upon approval the Permittee shall implement all plans and schedules as written.

2. The results of all plans and reports shall be submitted in accordance with the approved schedule. Extensions of the due date for submittals may be granted by the Department based on the Permittee's demonstration that sufficient justification for the extension exists.

3. If the Permittee at any time determines that the SAR information required under Condition VIII.C., or RFI Workplan(s) required under Condition VIII.F., no longer satisfies the requirements of 40 CFR 264.101 as adopted in 15A NCAC 13A .0109 or this permit for prior or continuing releases of hazardous waste or hazardous constituents from solid waste management units and/or areas of concern, the Permittee shall submit an amended RFI Workplan(s) to the Department within ninety (90) calendar days of such determination.

4. All reports shall be signed and certified in accordance with 40 CFR 270.11 as adopted in 15A NCAC 13A .0113.

5. Two (2) paper copies and one (1) electronic copy of all reports and plans shall be provided by the Permittee to the Department at the following address:

Ms. Elizabeth W. Cannon, Chief
Hazardous Waste Section
Waste Management Division
1646 Mail Service Center
Raleigh, NC 27699-1646

Electronic reports shall be in MS Word or a common text format. Electronic data shall be in MS Access or a comma delimited format. Data files shall also include a meta data file describing the fields in the data file. Plans shall be electronic to the most reasonable extent possible.

PART IX - WASTE MINIMIZATION

A. GENERAL REQUIREMENTS

Pursuant to 40 CFR 264.73(b)(9) as adopted in 15A NCAC 13A .0109, and Section 3005(h) of RCRA, 42 U.S.C. 6925(h), the Permittee must certify, no less often than annually that:

1. The Permittee has a program in place to reduce the volume and toxicity of hazardous waste to the degree determined by the Permittee to be economically practicable; and

2. The proposed method of treatment, storage or disposal is the most practicable method available to the Permittee which minimizes the present and future threat to human health and the environment.

B. WASTE MINIMIZATION RECORD KEEPING

The Permittee shall maintain copies of the certification in the facility operating record as required by 40 CFR 264.73(b)(9) as adopted in 15A NCAC 13A .0109.

C. WASTE MINIMIZATION PROGRAM OBJECTIVES

The Waste Minimization Program should include the following elements:

1. Top Management Support

   a. Dated and signed policy describing management support for waste minimization and for implementation of a waste minimization plan.

   b. Description of employee awareness and training programs designed to involve employees in waste minimization planning and implementation to the maximum extent feasible.

   c. Description of how a waste minimization plan has been incorporated into management practices so as to ensure ongoing efforts with respect to product design, capital planning, production operations, and maintenance.

2. Characterization of Waste Generation

   Identification of types, amounts, and hazardous constituents of waste streams, with the source and date of generation.

3. Periodic Waste Minimization Assessments

   a. Identification of all points in a process where materials can be prevented from becoming a waste, or can be recycled.

   b. Identification of potential waste reduction and recycling techniques applicable to each waste, with a cost estimate for capital investment and implementation.

c. Description of technically and economically practical waste reduction/recycling options to be implemented, and a planned schedule for implementation.

d. Specific performance goals, preferably quantitative, for the source reduction of waste by stream. Whenever possible, goals should be stated as weight of waste generated per standard unit of production, as defined by the generator.

4. Cost Allocation System

a. Identification of waste management costs for each waste, factoring in liability, transportation, record keeping, personnel, pollution control, treatment, disposal, compliance and oversight costs to the extent feasible.

b. Description of how departments are held accountable for the wastes they generate.

c. Comparison of waste management costs with costs of potential reduction and recycling techniques applicable to each waste.

5. Technology Transfer

Description of efforts to seek and exchange technical information on waste minimization from other parts of the company, other firms, trade associations, technical assistance programs, and professional consultants.

6. Program Evaluation

a. Description of types and amounts of hazardous waste reduced or recycled.

b. Analysis and quantification of progress made relative to each performance goal established and each reduction technique to be implemented.

c. Amendments to waste minimization plan and explanation.

d. Explanation and documentation of reduction efforts completed or in progress before development of the waste minimization plan.

e. Explanation and documentation regarding impediments to hazardous waste reduction specific to the individual facility.

References: "Draft Guidance to Hazardous Waste Generators on the Elements of a Waste Minimization Program", 54 FR 25056, June 12, 1989.

"Waste Minimization Opportunity Assessment Manual", EPA/625/788/003, July 1988.

PART X - LAND DISPOSAL RESTRICTIONS

A. GENERAL RESTRICTIONS

1. 40 CFR Part 268 as adopted in 15A NCAC 13A .0112 identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances which an otherwise prohibited waste may continue to be placed on or in a land treatment, storage or disposal unit. The Permittee shall maintain compliance with the requirements of 40 CFR 268 as adopted in 15A NCAC 13A .0112. Where the Permittee has applied for an extension, waiver or variance under 40 CFR 268 as adopted in 15A NCAC 13A .0112 the Permittee shall comply with all restrictions on land disposal under this Part once the effective date for the waste has been reached pending final approval of such application.

B. LAND DISPOSAL PROHIBITIONS AND TREATMENT STANDARDS

1. A restricted waste identified in 40 CFR Part 268 Subpart C as adopted in 15A NCAC 13A .0112 may not be placed in a land disposal unit without further treatment unless the requirements of 40 CFR Part 268 Subparts C and/or D as adopted in 15A NCAC 13A .0112 are met.

2. The storage of hazardous wastes restricted from land disposal under 40 CFR Part 268 as adopted in 15A NCAC 13A .0112 is prohibited unless the requirements of 40 CFR 268 Subpart E as adopted in 15A NCAC 13A .0112 are met.

C. DEFINITIONS

1. For the purposes of 40 CFR Part 268 as adopted in 15A NCAC 13A .0112, "Land Disposal" means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, underground mine or cave, or concrete vault or bunker intended for disposal purposes.

PART XI - ORGANIC AIR EMISSIONS REQUIREMENTS FOR PROCESS VENTS AND EQUIPMENT LEAKS

A. GENERAL INTRODUCTION

In the June 21, 1990, Federal Register, EPA published the final rule for Phase I Organic Air Emission Standards (40 CFR Parts 264 and 265, Subparts AA and BB) for hazardous waste treatment, storage, and disposal facilities. Subpart AA contains emission standards for process vents associated with distillation fractionation, thin-film evaporation, solvent extraction, and air or steam stripping operations that process hazardous waste with an annual average total organic concentration of at least ten (10) parts per million (ppm) by weight. SUBPART AA DOES NOT APPLY TO AIR STRIPPING OPERATIONS USED FOR CORRECTIVE ACTION PURPOSES. Subpart BB contains emission standards that address leaks from specific equipment (i.e. pumps, valves, compressors, etc.) that contains or contacts hazardous waste that has an organic concentration of at least ten (10) percent by weight.

B. ORGANIC AIR EMISSION STANDARDS

The Permittee shall comply with the Organic Air Emissions Requirements of 40 CFR 264, Subpart AA (for process vents), and Subpart BB (for equipment leaks) as adopted in 15A NCAC 13A .0109 and 40 CFR 270.24 and 270.25 as adopted in 15A NCAC 13A .0113 as applicable.

PART XII - RCRA ORGANIC AIR EMISSION REQUIREMENTS

A. APPLICABILITY

1. Subpart CC applies to all tanks, containers, surface impoundments and/or miscellaneous units, identified in Condition XII.A., except as provided for in 40 CFR 264.1 and 264.1080(b) as adopted in 15A NCAC 13A .0109.

The Conditions of this Part apply to:

2. Hazardous waste management units identified below, for which required control equipment has been installed and is operational or are exempt from Subpart CC standards under 40 CFR 264.1082(c) as adopted in 15A NCAC 13A .0109.

Table XII.A.2. Hazardous Waste Management Units for Which Subpart CC Emissions Controls are Installed

HWMU Designation/ Identification Number	HWMU Type	Description of Air Emission Control System
Storage Area #1	Level 1 and Level 2 Containers	Containers meet applicable US D.O.T. standards
Storage Area #2	Level 1 and Level 2 Containers	Containers meet applicable US D.O.T. standards
Storage Area #3	Level 1 and Level 2 Containers	Containers meet applicable US D.O.T. standards
Storage Area #6	Level 1 and Level 2 Containers	Containers meet applicable US D.O.T. standards
1,000-gallon Waste Feed Tank	Level 1	Fixed roof with conservation vent

B. EMISSION CONTROL TECHNOLOGY

The Permittee shall install and maintain all regulated units and associated emission control technology in accordance with the detailed plans, schedules, information and reports as contained Section L.

C. GENERAL STANDARDS

The Permittee shall comply with the applicable requirements of 40 CFR Part 264, Subpart CC as adopted in 15A NCAC 13A .0109.

D. REPORTING REQUIREMENTS

1. For each tank, surface impoundment, or container which manages hazardous waste that is exempted from using air emission controls, a written report shall be submitted to the Department within fifteen (15) days of each occurrence when hazardous waste is placed in the waste management unit in noncompliance with 40 CFR 264.1082(c)(1) or (c)(2) as adopted in 15A NCAC 13A .0109, as applicable. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent reoccurrence of the noncompliance.

2. For tanks listed in Conditions XII.A.2. or XII.A.3., which use air emission controls in accordance with the requirements 40 CFR 264.1084(c) as adopted in 15A NCAC 13A .0109, a written report shall be submitted to the Department within fifteen (15) days of each occurrence when hazardous waste is managed in the tank in noncompliance with the Conditions specified in 40 CFR 264.1084(c)(1) through (c)(4) as adopted in 15A NCAC 13A .0109. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent reoccurrence of the noncompliance.

3. For control devices used in accordance with the requirements of 40 CFR 264.1087 as adopted in 15A NCAC 13A .0109, a semiannual written report shall be submitted to the Department except as provided for in Condition XII.D.4. of this Part. The report shall describe each occurrence during the previous 6-month period when a control device is operated continuously for 24 hours or longer in noncompliance with the applicable operating values defined in 40 CFR 264.1035(c)(4) as adopted in 15A NCAC 13A .0109 or when a flare is operated with visible emissions as defined in 40 CFR 264.1033(d) as adopted in 15A NCAC 13A .0109. The written report shall include the EPA identification number, facility name and address, and an explanation why the control device could not be returned to compliance within 24 hours, and actions taken to correct the noncompliance.

4. A report to the Department in accordance with the requirements of Condition XII.D.3. of this Part is not required for a 6-month period during which all control devices subject to 40 CFR Part 264, Subpart CC, as adopted in 15A NCAC 13A .0109 are operated by the owner or operator such that during no period of 24 hours or longer did a control device operate continuously in noncompliance with the applicable operating

values defined in 40 CFR 264.1035(c)(4) as adopted in 15A NCAC 13A .0109 of this part or a flare operate with visible emissions as defined in 40 CFR 264.1033(d) as adopted in 15A NCAC 13A .0109.

5. All reports shall be signed and dated by an authorized representative of the Permittee as per 40 CFR 270.11(b) as adopted in 15A NCAC 13A .0113.

E. NOTIFICATION OF NEW UNITS

Prior to installing any tank, container, surface impoundment or miscellaneous unit subject to 40 CFR Part 264, Subpart CC, the Permittee shall apply for a permit modification under 40 CFR 270.42 as adopted in 15A NCAC 13A .0113, and provide specific Part B application information required under 40 CFR 270.14-17 and 270.27 as adopted in 15A NCAC 13A .0113, as applicable, with the modification request.

APPENDIX A

SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN SUMMARY

List of Solid Waste Management Units and Areas of Concern requiring an RFI:

SWMU/AOC Number	Description

List of Solid Waste Management Units and Areas of Concern requiring further investigation as the result of an RFI:

SWMU/AOC Number	Description
#6	Secondary Loading Area
#7	Railroad Spur
A-1	3124 Cullman Avenue

List of Solid Waste Management Units and Areas of Concern requiring Confirmatory Sampling:

SWMU/AOC Number	Description

List of Solid Waste Management Units and Areas of Concern regulated by the RCRA Permit:

SWMU/AOC Number	Description
#1	Truck Loading Area (Area #6)
#2	Distillation Unit (LUWA) Process Area (Area #5)
#3	Drum Storage Area (crack in floor) (Areas #1, #2, and #3)
#4	10,000-gallon Storage Tank
#5	Process Feed Tanks (Area #4)

List of Solid Waste Management Units and Areas of Concern that require no further action at this time:

SWMU/AOC Number	Description

APPENDIX B

RCRA FACILITY INVESTIGATION (RFI) WORKPLAN OUTLINE

I. RFI WORKPLAN REQUIREMENTS

The Permittee shall prepare a RCRA Facility Investigation (RFI) Workplan that meets the requirements of Part VIII of this document and the RFI Guidance, EPA-530/SW-89-031. This Workplan shall also include the development of the following plans, which shall be prepared concurrently:

A. Project Management Plan

Permittee shall prepare a Project Management Plan which will include a discussion of the technical approach, schedules and personnel. The Project Management Plan will also include a description of qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the RCRA Facility Investigation.

B. Sampling and Analysis Plan(s)

The Permittee shall prepare a plan to document all monitoring procedures: field sampling, sampling procedures and sample analysis performed during the investigation to characterize the environmental setting, source, and releases of hazardous constituents, so as to ensure that all information and data are valid and properly documented. The Sampling Strategy and Procedures shall be in accordance with Characterization of Hazardous Waste Sites A Methods Manual: Volume II., Available Sampling Methods, EPA-600/4-84-076, or EPA Region IV Engineering Compliance Branch's Standard Operating Procedure and Quality Assurance Manual (SOP). Any deviations from these references must be requested by the applicant and approved by EPA. The Sampling and Analysis Plan must specifically discuss the following unless the EPA-600/4-84-076 or SOP procedures are specifically referenced.

1. Sampling Strategy
   a. Selecting appropriate sampling locations, depths, etc.;
   b. Obtaining all necessary ancillary data;
   c. Determining conditions under which sampling should be conducted;
   d. Determining which media are to be sampled (e.g., ground water, air, soil, sediment, subsurface gas);
   e. Determining which parameters are to be measured and where;
   f. Selecting the frequency of sampling and length of sampling period;
   g. Selecting the types of samples (e.g., composites vs. grabs) and number of samples to be collected.

2. Sampling Procedures
   a. Documenting field sampling operations and procedures, including;
      i. Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters, preservatives, and absorbing reagents);
      ii. Procedures and forms for recording the exact location and specific considerations associated with sample acquisition;
      iii. Documentation of specific sample preservation method;
      iv. Calibration of field instruments;
      v. Submission of field-biased blanks, where appropriate;
      vi. Potential interferences present at the facility;
      vii. Construction materials and techniques, associated with monitoring wells and piezometers;
      viii. Field equipment listing and sampling containers;
      ix. Sampling order; and
      x. Decontamination procedures.

   b. Selecting appropriate sample containers;

   c. Sampling preservation; and

   d. Chain-of-custody, including:
      i. Standardized field tracking reporting forms to establish sample custody in the field prior to shipment; and
      ii. Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Sample Analysis
   Sample analysis shall be conducted in accordance with SW-846: "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods" (third edition). The sample analysis section of the Sampling and Analysis Plan shall specify the following:

   a. Chain-of-custody procedures, including:
      i. Identification of a responsible party to act as sampling custodian at the laboratory facility authorized to sign for incoming field samples, obtain documents of shipments, and verify the data entered onto the sample custody records;
      ii. Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracking report sheets; and

iii. Specification of laboratory sample custody procedures for sample handling, storage, and dispersement for analysis.

b. Sample storage;

c. Sample preparation methods;

d. Analytical Procedures, including:
i. Scope and application of the procedure;
ii. Sample matrix;
iii. Potential interferences;
iv. Precision and accuracy of the methodology; and
v. Method detection limits.

e. Calibration procedures and frequency;

f. Data reduction, validation and reporting;

g. Internal quality control checks, laboratory performance and systems audits and frequency, including:
i. Method blank(s);
ii. Laboratory control sample(s);
iii. Calibration check sample(s);
iv. Replicate sample(s);
v. Matrix-spiked sample(s);
vi. Control charts;
vii. Surrogate samples;
viii. Zero and span gases; and
ix. Reagent quality control checks.

h. Preventative maintenance procedures and schedules;

i. Corrective action (for laboratory problems); and

j. Turnaround time.

C. Data Management Plan

The Permittee shall develop and initiate a Data Management Plan to track investigation data and results. This plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record
The data record shall include the following:

a. Unique sample or field measurement code;

b. Sampling or field measurement location and sample or measurement type;

c. Sampling or field measurement raw data;

d. Laboratory analysis ID number;

e. Property or component measures; and

f. Result of analysis (e.g., concentration).

2. Tabular Displays
The following data shall be presented in tabular displays:

a. Unsorted (raw) data;

b. Results for each medium, or for each constituent monitored;

c. Data reduction for statistical analysis, as appropriate;

d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and

e. Summary data.

3. Graphical Displays
The following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transits, three dimensional graphs, etc.):

a. Display sampling location and sampling grid;

b. Indicate boundaries of sampling area, and area where more data are required;

c. Display geographical extent of contamination;

d. Illustrate changes in concentration in relation to distances from the source, time, depth or other parameters; and

e. Indicate features affecting inter-media transport and show potential receptors.

II. RCRA FACILITY INVESTIGATION (RFI) REQUIREMENTS

RCRA Facility Investigation:

The Permittee shall conduct those investigations necessary to: characterize the facility (Environmental Setting); define the source (Source Characterization); define the degree and extent of release of hazardous constituents (Contamination Characterization); and identify actual or potential receptors.

The investigations should result in data of adequate technical content and quality to support the development and evaluation of the corrective

action plan if necessary. The information contained in a RCRA Part B permit application and/or RCRA Section 3019 Exposure Information Report may be referenced as appropriate but must be summarized in both the RFI Workplan and RFI Report.

All sampling and analyses shall be conducted in accordance with the Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on a detailed site map.

A. Environmental Setting

The Permittee shall collect information to supplement and/or verify Part B information on the environmental setting at the facility. The Permittee shall characterize the following as they relate to identified sources, pathways and areas of releases of hazardous constituents from Solid Waste Management Units.

1. Hydrogeology
The Permittee shall conduct a program to evaluate hydrogeologic conditions at the facility. This program shall provide the following information:

a. A description of the regional and facility specific geologic and hydrogeologic characteristics affecting ground-water flow beneath the facility, including:
   i. Regional and facility specific stratigraphy: description of strata including strike and dip, identification of stratigraphic contacts;
   ii. Structural geology: description of local and regional structural features (e.g., folding, faulting, tilting, jointing, etc.);
   iii. Depositional history;
   iv. Regional and facility specific ground-water flow patterns; and
   v. Identification and characterization of areas and amounts of recharge and discharge.

b. An analysis of any topographic features that might influence the ground-water flow system.

c. Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways at the facility (i.e., the aquifers and any intervening saturated and unsaturated units), including:
   i. Hydraulic conductivity and porosity (total and effective);
   ii. Lithology, grain size, sorting, degree of cementation;
   iii. An interpretation of hydraulic interconnections between saturated zones; and
   iv. The attenuation capacity and mechanisms of the natural earth materials (e.g., ion exchange capacity, organic carbon content, mineral content, etc.).

d. Based on data obtained from ground-water monitoring wells and piezometers installed up gradient and down gradient of the potential contaminant source, a representative description of water level or fluid pressure monitoring including:
   i. Water-level contour and/or potentiometric maps;
   ii. Hydrologic cross-sections showing vertical gradients;
   iii. The flow system, including the vertical and horizontal components of flow; and
   iv. Any temporal changes in hydraulic gradients, for example, due to tidal or seasonal influences.

e. A description of man-made influences that may affect the hydrology of the site, identifying:
   i. Local water-supply and production wells with an approximate schedule of pumping; and
   ii. Man-made hydraulic structures (pipelines, trench drains, ditches, etc.)

2. Soils

The Permittee shall conduct a program to characterize the soil and rock units above the water table in the vicinity of contaminant release(s). Such characterization may include, but not be limited to, the following types of information as appropriate:

a. Surface soil distribution;

b. Soil profile, including ASTM classification of soil;

c. Transepts of soil stratigraphy;

d. Hydraulic conductivity (saturated and unsaturated);

e. Relative permeability;

f. Bulk density;

g. Porosity;

h. Soil sorption capacity;

i. Cation exchange capacity (CEC);

j. Soil organic content;

k. Soil pH;

l. Particle size distribution;

m. Depth of water table;

n. Moisture content;

o. Effect of stratification on unsaturated flow;

p. Infiltration;

q. Evapotranspiration;

r. Storage capacity;

s. Vertical flow rate; and

t. Mineral content.

3. Surface Water and Sediment
The Permittee shall conduct a program to characterize the surface water bodies in the vicinity of the facility. Such characterizations may include, but not be limited to, the following activities and information:

a. Description of the temporal and permanent surface water bodies including:
   i. For lakes and estuaries: location, elevation, surface area, inflow, outflow, depth, temperature stratification, and volume;
   ii. For impoundments: location, elevation, surface area, depth, volume, freeboard, and construction and purpose;
   iii. For streams, ditches, and channels: location, elevation, flow, velocity, depth, width, seasonal fluctuations, flooding tendencies (i.e., 100 year event), discharge point(s), and general contents.
   iv. Drainage patterns; and
   v. Evapotranspiration.

b. Description of the chemistry of the natural surface water and sediments. This includes determining the pH, total dissolved solids, total suspended solids, biological oxygen demand, alkalinity, conductivity, oxygen demand, total organic carbon, specific contaminant concentrations, etc.

c. Description of sediment characteristics including:
   i. Deposition area;
   ii. Thickness profile; and
   iii. Physical and chemical parameters (e.g., grain size, density, organic carbon content, ion exchange capacity, pH, etc.)

4. Air
The Permittee shall provide information characterizing the climate in the vicinity of the facility. Such information may include, but not be limited to:

a. A description of the following parameter:
   i. Annual and monthly rainfall averages;

ii. Monthly temperature averages and extremes;
iii. Wind speed and direction;
iv. Relative humidity/dew point;
v. Atmospheric pressure;
vi. Evaporation data;
vii. Development of inversions; and
viii. Climate extremes that have been known to occur in the vicinity of the facility, including frequency of occurrence (i.e., Hurricanes).

b. A description of topographic and man-made features which affect air flow and emission patterns, including:
i. Ridges, hills or mountain area;
ii. Canyons or valleys;
iii. Surface water bodies (e.g., rivers, lakes, bays, etc.); and
iv. Buildings.

B. Source Characterization

For those sources from which releases of hazardous constituents have been detected the Permittee shall collect analytical data to completely characterize the wastes and the areas where wastes have been placed, to the degree that is possible without undue safety risks, including: type; quantity; physical form; disposition (containment or nature of deposits); and facility characteristics affecting release (e.g., facility security, and engineering barriers). This shall include quantification of the following specific characteristics, at each source area:

1. Unit/Disposal Area Characteristics

a. Location of unit/disposal area;

b. Type of unit/disposal area;

c. Design features;

d. Operating practices (past and present);

e. Period of operation;

f. Age of unit/disposal area;

g. General physical conditions; and

h. Method used to close the unit/disposal area.

2. Waste Characteristics:

a. Type of wastes placed in the unit;

i. Hazardous classification (e.g., flammable, reactive, corrosive, oxidizing or reducing agent);
ii. Quantity; and
iii. Chemical composition.

b. Physical and chemical characteristics such as;
i. Physical form (solid, liquid, gas);
ii. Physical description (e.g., powder, oily sludge);
iii. Temperature;
iv. pH;
v. General chemical class (e.g., acid, base, solvent);
vi. Molecular weight;
vii. Density;
viii. Boiling point;
ix. Viscosity;
x. Solubility in water;
xi. Cohesiveness of the waste; and
xii. Vapor pressure.

c. Migration and dispersal characteristics of the waste such as:
i. Sorption capability;
ii. Biodegradability, bioconcentration, biotransformation;
iii. Photodegradation rates;
iv. Hydrolysis rates; and
v. Chemical transformations.

The Permittee shall document the procedures used in making the above determinations.

C. Characterization of Releases of Hazardous Constituents

The Permittee shall collect analytical data on ground water, soils, surface water, sediment, and subsurface gas contamination n the vicinity of the facility in accordance with the sampling and analysis plan as required above. These data shall be sufficient to define the extent, origin, direction, and rate of movement of contamination. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. The Permittee shall address the following types of contamination at the facility:

1. Ground-water Contamination
The Permittee shall conduct a ground-water investigation to characterize any plumes of contamination detected at the facility. This investigation shall at a minimum provide the following information:

a. A description of the horizontal and vertical extent of any plume(s) of hazardous constituents originating from or within the facility;

b. The horizontal and vertical direction of contamination movement;

c. The velocity of contaminant movement;

d. The horizontal and vertical concentration profiles of hazardous constituents in the plume(s);

e. An evaluation of factors influencing the plume movement; and

f. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations (e.g., well design, well construction, geophysics, modeling, etc.).

2. Soil Contamination

The Permittee shall conduct an investigation to characterize the contamination of the soil and rock units above the saturated zone in the vicinity of any contaminant release. The investigation may include the following information:

a. A description of the vertical and horizontal extent of contamination;

b. A description of appropriate contaminant and soil chemical properties within the contaminant source area and plume. This may include contaminant solubility, speciation, absorption, leachability, exchange capacity, biodegradability, hydrolysis, photolysis, oxidation and other factors that might affect contaminant migration and transformation;

c. Specific contaminant concentrations;

d. The velocity and direction of contaminant movement; and

e. An extrapolation of future contaminant movement.

The Permittee shall document the procedures used in making the above determinations.

3. Surface Water and Sediment Contamination

The Permittee shall conduct a surface water investigation to characterize contamination in surface water bodies resulting from releases of hazardous constituents at the facility. The investigation may include, but not be limited to, the following information:

a. A description of the horizontal and vertical extent of any plume(s) originating from the facility, and the extent of contamination in underlying sediments;

b. The horizontal and vertical direction of contaminant movement;

c. The contaminant velocity;

d. An evaluation of the physical, biological and chemical factors influencing contaminant movement;

e. An extrapolation of future contaminant movement; and

f. A description of the chemistry of the contaminated surface waters and sediments. This includes determining the pH, total dissolved solids, specific contaminant concentrations, etc.

The Permittee shall document the procedures used in making the above determinations.

4. Air Contamination

The Permittee shall conduct an investigation to characterize gaseous releases of hazardous constituents into the atmosphere or any structures or buildings. This investigation may provide the following information:

a. A description of the horizontal and vertical direction and velocity of contaminant movement;

b. The rate and amount of the release; and

c. The chemical and physical composition of the contaminant(s) released, including horizontal and vertical concentration profiles.

The Permittee shall document the procedures used in making the above determinations.

D. Potential Receptors

The Permittee shall collect data describing the human populations and environmental systems that are susceptible to contaminant exposure from the facility. Chemical analysis of biological samples and/or data on observable effects in ecosystems may also be obtained as appropriate. The following characteristics shall be identified:

1. Current local uses and planned future uses of ground water:

a. Type of use (e.g., drinking water source: municipal or residential, agricultural, domestic/non-potable, and industrial); and

b. Location of ground-water users, to include withdrawal and discharge wells, within one mile of the impacted area.

The above information should also indicate the aquifer or hydrogeologic unit used and/or impacted for each item.

2. Current local uses and planned future uses of surface waters directly impacted by the facility:

   a. Domestic and municipal (e.g., potable and lawn/gardening watering);

   b. Recreational (e.g., swimming, fishing);

   c. Agricultural;

   d. Industrial; and

   e. Environmental (e.g., fish and wildlife propagation).

3. Human use of or access to the facility and adjacent lands, including but not limited to:

   a. Recreation;

   b. Hunting;

   c. Residential;

   d. Commercial; and

   e. Relationship between population locations and prevailing wind direction.

4. A general description of the biota in surface water bodies on, adjacent to, or affected by the facility.

5. A general description of the ecology within the area adjacent to the facility.

6. A general demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age; sex; and sensitive subgroups.

7. A description of any known or documented endangered or threatened species near the facility.

APPENDIX C

CORRECTIVE MEASURES STUDY PLAN OUTLINE (CMS)

I. Identification and Development of the Corrective Measure Alternatives

A. Description of Current Situation
B. Establishment of Corrective Action Objectives
C. Screening of Corrective Measures Technologies
D. Identification of the Corrective Measure Alternatives

II. Evaluation of the Corrective Measure Alternatives

A. Technical/Environmental/Human Health/Institutional
B. Cost Estimate

III. Justification and Recommendation of the Corrective Measure or Measures

A. Technical
B. Environmental
C. Human Health

IV. Reports

A. Draft
B. Final
C. Public Review and Final Selection of Corrective Measure

I. IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE MEASURES ALTERNATIVES

Based on the results of the RCRA Facility Investigation and consideration of the identified potential corrective measure technologies, the Permittee shall identify, screen and develop the alternatives for removal, containment, treatment and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the facility and the known nature and extent of the contamination as documented by the RCRA Facility Investigation (RFI) Report. The Permittee shall provide an update to information presented in the RFI regarding previous response activities and interim measures which have been or are being implemented at the facility. The Permittee shall also make a facility-specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Establishment of Corrective Action Objectives

The Permittee shall propose facility-specific objectives for the corrective action. These objectives shall be based on public health and environmental criteria, information gathered during the RFI, EPA guidance, and the requirements of any applicable Federal

statutes. At a minimum, all corrective actions concerning groundwater releases from regulated units must be consistent with, and as stringent as, those required under 40 CFR 264.100 as adopted in 15A NCAC 13A .0109.

C. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and assess the technologies which are applicable at the facility. The Permittee shall screen the corrective measure technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on eliminating those technologies which have severe limitations for a given set of waste and site-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Site, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Site Characteristics
Site data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by site characteristics should be eliminated from further consideration.

2. Waste Characteristics
Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by these waste characteristics should be eliminated from consideration. Waste characteristics particularly affect the feasibility of in-situ methods, direct treatment methods, and land disposal (on/off-site).

3. Technology Limitations
During the screening process, the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process. For example, certain treatment methods have been developed to a point where they can be implemented in the field without extensive technology transfer or development.

D. Identification of the Corrective Measure Alternatives

The Permittee shall develop the Corrective Measure Alternatives based on the corrective action objectives and analysis of potential corrective measure technologies. The Permittee shall rely on engineering practice to determine which of the previously

identified technologies appear most suitable for the site. Technologies can be combined to form the overall corrective action alternatives. The alternatives developed should represent a workable number of option(s) that each appear to adequately address all site problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies.

II. EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the initial screening and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee shall provide a description of each corrective measure alternative which includes but is not limited to the following: preliminary process flow sheets; preliminary sizing and type of construction for buildings and structures; and rough quantities of utilities required. The Permittee shall evaluate each alternative in the four following areas:

1. Technical;

a. The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability and safety.

i. Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or site characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and

ii. Useful life is defined as the length of time the level of desired effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time. Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technology, as well as appropriateness of the

technologies, must be considered in estimating the useful life of the project.

b. The Permittee shall provide information on the reliability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:
   i. Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activities should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and
   ii. Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Respondent should evaluate whether the technologies have been used effectively under analogous conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the site.

c. The Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response:
   i. Constructability is determined by conditions both internal and external to the facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the facility (i.e., remote location vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-site treatment or disposal facilities; and
   ii. Time has two components that shall be addressed: the time it takes to implement a corrective measure and the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluation shall include threats to the safety of nearby

communities and environments as well as those to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental;
The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short- and long-term beneficial and adverse effects of the response alternative; and adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health;
The Permittee shall assess each alternative in terms of the extent to which it mitigates short- and long-term potential exposure to any residual contamination and protects human health both during and after implementation of the corrective measure. The assessment will describe the concentrations and characteristics of the contaminants on-site, potential exposure routes, and potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminants and the reduction over time for management of mitigation measures, the relative levels of each alternative with existing criteria, standards, or guidelines acceptable to EPA.

4. Institutional
The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of Federal, state and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative. If the selected remedy is capping and closure in place, a notation must be made in the land deed.

B. Cost Estimate

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase or segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.

1. Capital costs consist of direct (construction) and indirect (non-construction and overhead) costs.

   a. Direct capital costs include:
      i. Construction costs:
         Costs of materials, labor (including fringe benefits and worker's compensation), and equipment required to install the corrective measure.
      ii. Equipment costs:

Costs of treatment, containment, disposal and/or service equipment necessary to implement the action; these materials remain until the corrective action is complete;

iii. Land and site-development costs:
Expenses associated with purchase of land and development of existing property; and

iv. Buildings and services costs:
Costs of process and non-process buildings, utility connections, purchased services, and disposal costs.

b. Indirect capital costs include:

i. Engineering expenses:
Cost of administration, design, construction supervision, drafting, and testing of corrective measure alternatives;

ii. Legal fees and license or permit costs:
Administrative and technical costs necessary to obtain licenses and permits for installation and operation;

iii. Start-up and shakedown costs:
Costs incurred during corrective measure start-up; and

iv. Contingency allowances:
Funds to cover costs resulting from unforeseen circumstances, such as inadequate facility characterization.

2. Operation and maintenance costs are post-construction costs necessary to ensure continued effectiveness of a corrective measure. The Permittee shall consider the following operation and maintenance cost components:

a. Operating labor costs:
Wages, salaries, training, overhead, and fringe benefits associated with the labor needed for post-construction operations;

b. Maintenance materials and labor costs:
Costs for labor, parts, and other resources required for routine maintenance of facilities and equipment;

c. Auxiliary materials and energy:
Costs of such items as chemicals and electricity for treatment plant operations, water and sewer service, and fuel;

d. Purchased services:
Sampling costs, laboratory fees, and professional fees for which the need can be predicted;

e. Disposal and treatment costs:

Costs of transporting, treating, and disposing of waste materials, such as treatment plant residues, generated during operations;

f. Administrative costs:
Costs associated with administration of corrective measure operation and maintenance not included under other categories;

g. Insurance, taxes, and licensing costs:
Costs of such items as liability and sudden accident insurance; real estate taxes on purchased land or right-of-way; licensing fees for certain technologies; and permit renewal and reporting costs;

h. Maintenance reserve and contingency funds:
Annual payments into escrow funds to cover (1) costs of anticipated replacement or rebuilding of equipment and (2) any large unanticipated operation and maintenance costs; and

i. Other costs:
Items that do not fit any of the above categories.

III. JUSTIFICATION AND RECOMMENDATION OF THE CORRECTIVE MEASURE OR MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternative or alternatives to be understood easily. Trade-offs among health risks, environmental effects, and other pertinent factors shall be highlighted. The Department will select the corrective measure alternative or alternatives to be implemented based on the results obtained from work completed under Section II and III. At a minimum, the following criteria will be used to justify the final corrective measure or measures.

A. Technical

1. Performance - corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;

2. Reliability - corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proved effective under waste and facility conditions similar to those anticipated will be given preference;

3. Implementability - corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and

4. Safety - corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

The corrective measure(s) must comply with existing U.S. EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

C. Environmental

The corrective measure(s) posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

IV. REPORTS

The Permittee shall prepare a Corrective Measure Study Report presenting the results obtained from Sections I through III and recommending a corrective measure alternative. Copies of the preliminary report shall be provided by the Permittee to the Department for review and approval.

A. Draft

The Report shall at a minimum include:

1. A description of the facility;

   a. Site topographic map and preliminary layouts.

2. A summary of the corrective measure(s) and rationale for selection;

   a. Description of the corrective measure(s) and rationale for selection;

   b. Performance expectations;

   c. Preliminary design criteria and rationale;

   d. General operation and maintenance requirements; and

   e. Long-term monitoring requirements.

3. A summary of the RCRA Facility Investigation and impact on the selected corrective measure or measures;

   a. Field studies (ground water, surface water, soil, air); and

   b. Laboratory studies (bench scale, pick scale).

4. Design and Implementation Precautions;

a. Special technical problems;

b. Additional engineering data required;

c. Permits and regulatory requirements;

d. Access, easements, right-of-way;

e. Health and safety requirements; and

f. Community relations activities.

5. Cost Estimates and Schedules;

a. Capital cost estimate;

b. Operation and maintenance cost estimate; and

c. Project schedule design, construction, and operation).

Copies of the draft shall be provided by the Permittee to the Department.

B. Final

The Permittee shall finalize the Corrective Measure Study Report incorporating comments received from the Department on the Draft Corrective Measure Study Report. The report shall become final upon approval by the Department.

C. Public Review and Final Selection of Corrective Measures

Upon receipt of the Final Corrective Measure Study Report, EPA shall announce its availability to the public for review and comment. At the end of the comment period, the Department shall review the comments and then inform the Permittee of the final decision as to the approved Corrective Measures to be implemented.

APPENDIX D

SCHEDULE OF COMPLIANCE

Schedule of Compliance	Due Date
Duty to Reapply for a Permit Condition I.D.2	Submit a complete application 180 days prior to permit expiration date.
Verify emergency Response resources Condition II.W.2	Every 2 years after the permit is issued.
Prepare and submit a biennial report Condition I.G	Prepare and submit a biennial report on or before March 1 of each even numbered year unless directed otherwise.
Commercial Facility Closure	
Cease acceptance of all hazardous waste permitted in Condition II.A and start closure of operating facility Condition I.N.	Within three (3) years of the effective date of the permit.
Remove all hazardous waste from facility Condition II.O.4.	Within ninety (90) days after the start of closure.
Complete and certify closure of operating facility Condition II.O.6.	Within 180 days of after the start of closure.
Solid Waste Management Units and Corrective Action	
Submit a Cost Estimate for Corrective Action Condition II.U	Prepare a cost estimate for the completion of all corrective action. Submit the cost estimate within 180 days of the Permit effective date.
Submit financial assurance for the full cost of corrective action Condition II.V.2	Within sixty (60) days after the approval of the Cost Estimate for Corrective Action
Notification of Newly Identified SWMUs and AOCs. Condition VIII.C.1 and Condition VIII.C.2.	Within fifteen (15) calendar days of discovery.
SWMU Assessment Report. Condition VIII.C.3.	Within ninety (90) calendar days of notification.
Notification for Newly Discovered Releases at Previously Identified SWMUs and AOCs. Condition VIII.D.1.	Within fifteen (15) calendar days of discovery
Confirmatory Sampling Workplan for SWMUs identified in Appendix A. Condition VIII.E.1.	Within forty-five (45) calendar days after effective date of permit.
Confirmatory Sampling Report. Condition VIII.E.4.	Within sixty (60) calendar days after approval of the CS Workplan.
RFI Workplan for SWMU(s) and AOC(s) Identified in Appendix A. Condition VIII.F.1.a.	Within ninety (90) calendar days after the approval of the Confirmatory Sampling Report.

Schedule of Compliance	Due Date
RFI Workplan for SWMU(s) and AOC(s) Identified under Condition VIII.C.4., Condition VIII.D.2., or Condition VIII.E.5. Condition VIII.F.1.b.	Within ninety (90) calendar days after receipt of notification by the Department which SWMUs or AOCs require and RFI.
RFI Progress Reports. Condition VIII.F.3.a.	Quarterly, beginning ninety (90) calendar days from the start date specified by the Department *
Draft RFI Report. Condition VIII.F.3.b.	In accordance with the approved RFI Workplan.
Final RFI Report Condition VIII.F.3.b.	Within thirty (30) calendar days after receipt of the Department's comments on the Draft RFI Report.
Interim Measures Plan Condition VIII.G.1.a.	Within thirty (30) calendar days of notification by the Department.
Interim Measures Progress Reports Condition VIII.G.3.a.	In accordance with the approved Interim Measures Workplan. **
Interim Measure Report Condition VIII.G.3.b.	Within ninety (90) calendar days of completion of interim measures
CMS Workplan Condition VIII.H.1.a.	Within ninety (90) calendar days of notification by the Department that a CMS is needed.
Implementation of CMS Workplan Condition VIII.H.2.	Within fifteen (15) calendar days after receipt of Department approval of plan.
Draft CMS Report Condition VIII.H.3.a.	In accordance with the schedule in the approved CMS Workplan.
Final CMS Report Condition VIII.H.3.a.	Within thirty (30) calendar days of Department's comments on draft CMS Report.
Demonstration of Financial Assurance Condition VIII.I.3.	Within one hundred and twenty (120) calendar days after permit modification for remedy.
Imminent Hazard Report Condition VIII.K.1. and VIII.K.2.	Oral within 24 hours; Written within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances.
Waste Minimization	
Waste Minimization Certification Condition IX.	Annually from effective date of permit.
Organic Air Emissions (AA, BB, CC)	
Organic Air Emissions Report Condition XI.	Within thirty (30) calendar days after the effective date of the permit or modified permit as required.
Complete installation of emission control technology for units identified Condition XII.A.3.	By "Installation Due Date" under Condition XII.A.3.

Schedule of Compliance	Due Date
Written report of noncompliance of tanks, surface impoundments or containers with 40 CFR 264.1082(c)(1) or (c)(2) Condition XII.D.1.	Within fifteen (15) calendar days of becoming aware of noncompliance.
Written report of noncompliance of tanks with 40 CFR 264.1084(c)(1) or (c)(2) Condition XII.D.2.	Within fifteen (15) calendar days of becoming aware of noncompliance.
Semi-annual Report for Use of Control Devices 40 CFR 264.1090(c) Condition XII.D.3.	Semi-annually, beginning six (6) months from the effective date of the permit. ***

The above reports must be signed and certified in accordance with 40 CFR 270.11 as adopted by 15A NCAC 13A .0113.

* This applies to Workplan execution that requires more than one hundred and eighty (180) calendar days.

** This applies to Workplan execution that requires more than one year.

*** Semi-annual report is not required if provisions of Condition XII.D.4. are met.

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Response to Comment
on
Detrex Corporation's Draft Renewal Permit
Charlotte, North Carolina
EPD ID # NCD 049 773 245

Introduction

Detrex Corporation has been operating at 3114 Cullman Avenue since October 1, 1969. Due to the implementation of the Resource and Recovery Act (RCRA) in 1980, Detrex applied for and received a Hazardous Waste Management Permit to store and treat hazardous waste in 1983. In 1993, Detrex submitted an application to renew their Hazardous Waste Management Permit. This renewal, which included additional storage and treatment activities, was approved on December 29, 1997 and became effective on January 28, 1998. On July 12, 2007, Detrex applied for the second renewal of their Hazardous Waste Management Permit. This renewal application contains no changes in the operation of the facility except for the removal of three 1,000-gallon feed tanks which have been clean-closed according to the requirements of their 1997 Hazardous Waste Management Permit.

The Draft Renewal Permit was public noticed on September 27, 2009. The public comment period ran from September 27, 2009 through November 11, 2009. The Public Hearing was held on October 29, 2009 at the Charlotte Main Library Dalton Conference Room at 310 N. Tryon Street in Charlotte, North Carolina. Attending the Public Hearing were representatives of Detrex Corporation, a representative of the Charlotte/Mecklenburg Fire Department and representatives of the North Carolina Department of Environment and Natural Resources (NC DENR).

Comments were received during the Public Hearing and during public comment period. The comments address the same issue; that Detrex is located in a 100-year floodplain. Two people provided comments during the public comment period. A transcript of the public hearing (Attachment 1) and a copy of one letter received is attached to this response (Attachment 2).

The comments are summarized below followed by the response from the NC DENR Hazardous Waste Section. In formulating the Response to Comments, NC DENR decided to also get a Technical Opinion from EPA, Region 4. The request for the opinion and the response from EPA are attached to this response (Attachments 3 and 4).

Brief summary of Comments

Detrex Corporation is located in the 100-year floodplain of Little Sugar Creek. Both the oral and written comments have to do with this fact.

1. Mr. Gary McCormick, Battalion Chief of the Charlotte Fire Department and Hazardous Waste Materials Coordinator for Charlotte Mecklenburg Emergency Management, spoke at the public hearing. His concern is that the method for triggering the contingency plan in

water in the building), the tank will displace less than 461 pounds of water at the 100-year flood level as shown in Attachment G-7 of the permit application. At the predicted future 100-year flood level (4.8 feet of water in the building), if the tank contains 330 gallons of waste, even at a specific gravity of 0.8, the tank will not float because the weight of the tank and the weight of the waste will exceed the weight of the water displaced by the tank. Therefore, Detrex will make sure that the tank is filled to 1/3 of its capacity before leaving the building in the event of a flood and at the end of each work day.

Most of the rest of the waste within the building is stored in 55-gallon containers and 400-gallon totes. The 55-gallon containers generally contain 52 gallons when full and for the chlorinated solvents that Detrex recycles, the specific gravity is above 1.0. As shown in Attachment G-7 this is sufficient to keep these drums from floating at the current 100-year flood level. However, not all of Detrex's drums contain chlorinated solvents and some of the wastes have a specific gravity of 0.8. Attachment G-7 shows, conservatively since the calculations show more water being displaced than actually will be, that the drums will not float at the current 100-year flood level. Therefore prior to evacuating the building before a flood event, and before the end of each work day, Detrex will stack all of its 55-gallon drums two high. Each level of drums will be placed on a pallet.

The remaining waste is stored in two tractor trailers located in the loading dock between 3114 and 3124 Cullman Avenue. Before a flood event and at the end of each work day, the waste will be placed in the trailers. The trailer doors will be locked and the trailers will be secured to the dock with an appropriate tie-down method.

It should be noted here that according to Mr. Tingle, the predicted future 100-year flood level is based on a model which incorporates estimated values dependent on fifteen to twenty years of forecasted future development of the area around 3114 Cullman Avenue while the operating portion of Detrex's permit is only being renewed for a maximum of three years.

The language in the permit application has been modified as follows:

Section G-3c has been changed to read:

"If the EC determines, based on weather reports and conditions near the facility, that waters could reach the active hazardous waste management units, the CP will be implemented. Implementation of the plan would not require notification of the Federal or Local Authorities, as all waste materials will be secured within the facility and in the storage trailers and will not become a threat to human health or the environment.

The building, in existence since 1969, was not designed to be watertight. Should the water level outside the building exceed the height of the secondary containment

regards flooding, and, if necessary, call all essential employees to the Facility.

4. Storage trailers in area #6 will be sealed (rear doors closed and locked) to ensure that no waste drums can escape from the trailers. The trailers will then be moved off site until flood waters recede.

5. Facility Personnel will ensure that all drums in the facility are double stacked to prevent any potential floating. See attached buoyancy calculations in Attachment G-7

6. Personnel will ensure that a sufficient amount of waste will be in the 1,000-gallon process tank in area #4 to prevent its potential floating.

7. All facility bay doors will be closed and locked to prevent material (i.e. drums, totes, and/or tanks) from leaving the building under any circumstance.

8. The Facility will be shut down upon completion of the preceding steps. This may include shutting power off at the main electrical distribution site to prevent additional problems.

9. It is estimated that this procedure to prepare the facility for flooding prior to employee departure will take approximately one hour.

Any floodwaters remaining in the building after the bulk of the water has receded will be sampled and tested for contamination before being disposed of in the appropriate manner.

Once the waters have receded from the site..."
(the remainder of this section will remain as currently written)

In addition the following three Permit Conditions regarding the response to the flooding issue at the facility have been added:

III.K.2. At the first sign of a potential flood event and at the end of each work day, the Permittee will ensure that all containers are double stacked in accordance with Permit Condition III.C and Attachment G-7 of the Application.

III.K.3. At the first sign of a potential flood event and at the end of each work day, the Permittee will ensure that the trailer doors in Area #6 are closed and locked and the trailers will be secured to the docking area by a manner of tie-down agreed upon by the Permittee and the Department. The manner of tie-down shall be decided upon and implemented by the effective date of this Permit.

The North Carolina Regulations 15A NCAC 13A(r)(2) require that all hazardous waste facilities meet the location standards listed under (r)(2), including not being located within 200 feet horizontally of a 100-year floodplain (r)(2)(D)(v) except that *existing* facilities meet these separation distances to the maximum extent feasible. Under 40 CFR 260.10, an *existing* hazardous waste management facility or existing facility means a facility which was in operation or for which construction commenced on or before November 19, 1980. Since Detrex started operation in October 1969, it is an *existing* facility and is grandfathered into the regulations. Therefore, it must meet the regulations for a facility located in a 100-year floodplain 40 CFR 270.14 (b)(11)(iii).

40 CFR 270.14 (b)(11)(iii)(A) has been met as there will be no hydrostatic forces due to differences in water height inside and outside the building. 40 CFR 270.14 (b)(11)(iii)(B) has been met as all containers and the tank are inspected on a daily basis for leaks and properly stacked and filled prior to a flood event or the end of a work day. In addition, Detrex now has a method for obtaining earlier detection of a potential flood. 40 CFR 270.14 (b)(11)(iii)(C) is met for those wastes stored in the trailers outside in that the trailers will be locked and tied down so that neither the drums nor the trailers can move from their location on the property.

Based on the above information, Detrex has satisfied the requirements of the North Carolina location standards to maximum extent feasible. In addition, the floodplain standards of 40 CFR 270.14(b)(11) have also been met.

Comment #4

One major cause of the flooding at 3114 Cullman Avenue is the blockage of the culvert under the train tracks just downstream from the facility.

Response #4

Of the three or four flooding events that reached the street in the past thirteen years, two have been major events. On July 24, 1997, the remnants of Hurricane Danny washed a significant amount of debris down Little Sugar Creek which blocked the culvert under the railway causing a 100-year flood upstream of the culvert. Detrex had 26 inches of water inside their building. None of the containers or tanks located inside the building or trailers holding hazardous waste moved during the flood event and during the cleanup of the facility it was determined that no hazardous waste had been lost. The second major event happened in 2008 when a localized storm resulted in trash dumpsters from other buildings floating down Little Sugar Creek and blocking the culvert. In this instance, the flood water did not enter 3114 Cullman Avenue. Detrex has contacted the city in an attempt to rectify this problem.

Detrex has no control over the circumstances that have caused the two major flooding events recorded over the history of this facility. These circumstances also fall outside of the jurisdiction of RCRA.

Additional Question Raised by US, EPA Region 4

The Hazardous Waste Management Facility to be covered by this permit is located at 3114 Cullman Avenue in Charlotte, North Carolina. Records found on the internet (included with EPA's Technical Opinion) raised questions with EPA as to who the owner and/or operator of the facility at 3114 Cullman Avenue is and therefore who should receive the permit. Detrex Incorporated is the owner of the property and therefore owner by definition of the regulations and the permit. Parts Cleaning Technology (PCT) provides the man power to operate the business. However, per the terms of their business agreement, PCT acts as Detrex's subcontractor for the hazardous waste portion of the business. Under the purchase agreement, all hazardous waste business and equipment was excluded from the purchase, including the permit. Therefore the permit will be issued to Detrex Incorporated as both owner and operator, and PCT's authority to do business in North Carolina becomes a nonissue.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MAR 5 2010

MEMORANDUM

SUBJECT: Preparedness and Prevention Requirements for RCRA TSDFs (Response to Chemical Safety Board Recommendation 2007-01-I-NC)

FROM: Matt Hale, Director
Office of Resource Conservation and Recovery

TO: RCRA Directors
EPA Regions 1-10

This memorandum provides guidance for Resource Conservation and Recovery (RCRA) permitting authorities to ensure that state and local authorities and first responders have sufficient information for emergency preparedness, prevention, and response at RCRA hazardous waste Treatment, Storage, and Disposal Facilities (TSDFs). As you are aware, most preparedness and prevention requirements for TSDFs are now imposed through authorized states via the RCRA permitting process. Therefore, we worked with states and Regional staff in developing this guidance. I encourage you to share this guidance with your state counterparts, and am providing a copy to the states through the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). In short, as discussed below, this guidance recommends that TSDF permits explicitly require that owners and operators provide up-to-date written information about the facility and hazardous waste located there to State Emergency Response Commissions (SERCs), Local Emergency Planning Committees (LEPCs)[1], local fire departments, and other state and local emergency response authorities, as appropriate. This guidance recommends also that owners of RCRA TSDFs that already have permits, and those that are operating under interim status, follow this practice as well.

Background

The U.S. Chemical Safety and Hazard Investigation Board (CSB) conducted a formal investigation into the fire that began on October 5, 2006 at the Environmental Quality Co. (EQ), Apex, North Carolina, hazardous waste facility. The CSB published a case study, *Fire and Community Evacuation in Apex, North Carolina* (2007-01-I-NC, April 16, 2008, http://www.csb.gov/assets/document/EQFinalReport.pdf). In its case study, CSB expressed a concern that the RCRA hazardous waste regulations do not explicitly state what information the

[1] LEPCs are responsible for developing a local contingency plan for chemical risks in their community.

owner of a RCRA TSDF must share with local authorities, whether the information should be written, or if updates are necessary.

According to the CSB, EQ "had not provided any detailed written information on the types, quantities, and location of hazardous materials in the facility to fire personnel or the Local Emergency Planning Committee." Furthermore, since the EQ facility "was unoccupied at the time of the incident, no emergency coordinator was on-site to initiate the facility contingency plan." EQ had addressed the RCRA regulatory requirement to "familiarize" local authorities with the facility and hazardous waste handled there by having the fire chief "tour the facility once."[2] The CSB explained that "because of the unknown nature" of the burning chemicals and exploding drums at the EQ Apex site, local responders "chose to take only defensive actions" to minimize risks to emergency personnel and the community; about thirty people, including 13 first responders, sought medical attention, and about 3,300 residences were evacuated for two days.

In addition to the EQ incident, CSB identified 21 fire and chemical release incidents at hazardous waste facilities nationwide over the last five years, resulting in injuries, fatalities, evacuations, and other disruptions. CSB also reviewed fire protection practices in use at 12 hazardous waste facilities and found wide variation. CSB noted in their analysis that, "while not required, had EQNC used fire barriers (walls) to separate the segregated waste bays, the fire would likely have been contained within the oxidizer bay, significantly mitigating the incident's consequences."

Based on its investigation, CSB recommended that EPA:

> *Ensure that the emergency response planning required for permitted hazardous waste treatment, storage, and disposal facilities (40 CFR 264.37) includes providing written information to state and local emergency response officials on the type, approximate quantities, and locations of materials within the facility (similar to reporting requirements of the Emergency Planning and Community Right-to-Know Act).*
>
> *Additionally, ensure that permit holders periodically update this information throughout the ten-year permit period.*

CSB's recommendation is intended to help address the apparent lack of communication between TSDFs and state and local emergency authorities regarding facility operations.

EPA's Response to CSB

In an October 2008 letter to the CSB, EPA agreed to "...encourage state Governors, SERCs, and LEPCs to exercise their authorities, as appropriate, to designate TSDFs as subject to the requirements of Subtitle A of EPCRA, and to consider requiring them to annually provide

[2] According to the NC Department of Environment and Natural Resources, other members of the fire chief's staff had routinely visited and inspected the EQ facility prior to the fire.

chemical inventory information to SERCs, LEPCs, and local fire departments."[3] EPA has since encouraged each state to exercise their authorities in this way under separate correspondence.[4]

In the same [October 2008] letter to the CSB, EPA expressed its intent to work with the states to develop guidance on how to accomplish CSB's recommendation under the existing RCRA regulations for TSDFs, and to explore whether a regulatory change is needed. After conducting a thorough review of the existing regulatory framework, the Agency has concluded that the existing regulatory framework under 40 CFR Parts 264 and 265 provides the authority to address the CSB's recommendation, and that the most effective and timely means of addressing a communications gap between TSDFs and state and local authorities is to provide additional guidance for TSDF permit writers under the existing regulations. Today's memorandum fulfills the commitment to develop that guidance.

Regulatory Framework

This section focuses on the federal RCRA hazardous waste regulatory framework; state RCRA programs may have additional requirements. Under section 3006 of RCRA, EPA authorizes qualified states to administer the RCRA program within the state. RCRA section 3009 allows states to impose standards more stringent than those in the federal program (see also 40 CFR 271.1).

The requirements for TSDF preparedness and prevention and contingency planning are inter-related, and together provide the basis for the guidance below. These topics were discussed together in the preamble to the final rule (45 FR 33153, May 19, 1980). The preamble makes clear that "[t]he final Part 264 and 265 Subpart C preparedness and prevention rules are intended to minimize the possibility and effect of a release, fire, or explosion which could threaten human health or the environment." (45 FR 33184). Also, with respect to contingency plans, the preamble states: "to protect human health and the environment in emergencies, it is vital that local authorities have up-to-date facility contingency plans in their possession." (45 FR 33186). EPA believes that, just as TSDF owners/operators must submit written contingency plans and revisions "to all local police departments, fire departments, hospitals, and state and local emergency response teams that may be called upon to provide emergency services" (40 CFR §264.43(b), §265.53(b)), owners/operators also should submit **written preparedness and prevention information (PPI)** to these authorities, including SERCs and LEPCs, as appropriate.

RCRA's TSDF Preparedness and Prevention regulations in 40 CFR Parts 264 and 265 Subpart C (for permitted and interim status facilities, respectively) require owners and operators to make arrangements with local authorities for potential emergency response. The owner or operator of a TSDF "must attempt to make the following arrangements, as appropriate for the type of waste handled at [the] facility and the potential need for the services of these organizations" (40 CFR §264.37 and §265.37, for permitted and interim status facilities, respectively):

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[3] October 31, 2008 letter from Susan Parker Bodine, Assistant Administrator for the Office of Solid Waste and Emergency Response to the Honorable John S. Bresland, Chairman and CEO of the CSB.

[4] August 20, 2009 letters from Deborah Dietrich, Director, EPA Office of Emergency Management, to SERC chairperson in each State.

- Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of the hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;
- Where more than one police and fire department might respond to an emergency, agreements designating the primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
- Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and
- Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

Furthermore, RCRA's TSDF Contingency Plan and Emergency regulations in 40 CFR Parts 264 and 265 Subpart D (for permitted and interim status facilities, respectively) include additional requirements that are relevant to responding to incidents in an informed and timely manner. The regulations in Subpart D - Contingency Plan and Emergency Procedures require that:

- The contingency plan (plan) be designed to minimize hazards to human health and the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents to air, soil, or surface water (§§264.52(a), 265.52(a)).
- The plan describe arrangements agreed to by local police and fire departments, hospitals, contractors, state and local emergency response teams to coordinate emergency services (§§264.52(c), 265.53(c)).
- The plan list names, addresses, and phone numbers (home and work) of all persons qualified to act as emergency coordinators (§§264.52(d), 265.52(d)).
- The plan include a list of all emergency equipment at the facility, must include the location and physical description of each item on the list and a brief outline of its capabilities (§§264.52(e), 265.52(e)).
- Copies of the plan and all revisions to the plan be maintained at the facility (§§264.53(a), 265.53(a)).
- Copies of the plan and all revisions also be submitted to all local police and fire departments, hospitals, state and local emergency response teams that may be called upon to provide emergency services (§§264.53(b), 265.53(b)).
- The plan be reviewed, and immediately amended, if necessary, whenever a facility's permit is revised, the plan fails in an emergency, or the facility changes – in its design, construction, operation, maintenance or any other circumstances – in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency (§§264.54 and 265.54).
- There be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. They must be thoroughly familiar with all aspects of the contingency plan, all operations and activities

at the facility, the location and characteristics of waste handled, the locations of all records within the facility, and the facility layout (§§264.55 and 265.55).

The regulations clearly intend that, in the event of a fire, explosion or release, local responders have **current and specific** information to properly address the incident and minimize hazards to human health and the environment.

In addition, if there are facility-specific circumstances where the permitting authority determines that additional requirements are necessary to ensure protection of human health and the environment, then the RCRA "omnibus authority" (RCRA §3005(c)(3), codified at 40 CFR §270.32(b)(2)) may be used to incorporate additional conditions into the permit.

Guidance to RCRA Permitting Authorities

CSB's findings underscore that, to be useful when an actual emergency occurs, PPI for state and local responders must be available to responders in advance and in writing. Furthermore, CSB's recommendations are consistent with EPA's intent that local responders *have in-hand* the specific information they need for prompt and effective response, particularly when a facility is unoccupied or its emergency coordinator is not on-site (as in the Apex, N.C. incident).[5]

Therefore, EPA strongly encourages Regions and states to include permit conditions requiring TSDFs [subject to 40 CFR Parts 264 and 265 Subparts C and D] to provide **written** information regarding waste quantities, types, and locations, to state and local authorities (including SERCs and LEPCs) and first responders for the purpose of emergency preparedness and prevention, and to place a copy of this information in the facility's operating record, as well as to update such information as necessary, and provide the updates to state and local authorities and first responders. EPA also strongly encourages owners of TSDFs that already have permits or are operating under interim status to follow this practice (of providing written, up-to-date information) as well. Providing this information directly to local responders through an additional mode of communication (e.g., in addition to facility visits and walk-throughs) optimizes the capability of local authorities to mount a prompt and effective emergency response that can minimize the facility's potential damage and liability, and reduce the risk of harm to the community.

Necessary written information will vary from facility to facility, but should contain the following common elements:

- Waste types (ignitable, reactive, etc.)/names ;
- Approximate quantities of each waste type;
- General locations of waste at the facility;

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[5] It is important to note that even when the emergency coordinator is not on-site, local responders should have 24-hour contact information for the designated emergency coordinator. As described in the Regulatory Framework section above, the contingency plan must include this information, and contingency plans must be provided to all local police, fire departments, and emergency response teams. Access to the emergency coordinator will aid in a timely and effective response.

- Layout of the facility;
- General locations within the facility where personnel normally work; and
- Entrances and roads inside the facility and possible evacuation routes.

TSDF owners and operators already are required to maintain or provide this type of information for other purposes, e.g., to include in the facility operating record (in accordance with §264.73) or to submit with the permit application (in accordance with §270.14).

Today, effective emergency planning and response relies on electronic storage and retrieval of information. Accordingly, most states require "written" emergency planning and response information to be submitted in an electronic format that is most useful to emergency responders. Increasingly, emergency responders use laptop computers, Personal Digital Assistants (PDAs), and other portable electronic devices to quickly retrieve facility hazard information using software tools, such as the Computer Aided Management of Emergency Operations (CAMEO) software suite developed by EPA. Therefore, EPA encourages Regions and states to include permit conditions requiring that TSDFs submit required emergency planning information in electronic format so that it can be easily integrated, stored, and retrieved along with other emergency response information, such as that submitted to the states under EPCRA.[6]

There are other advantages to having electronic versions of the contingency plans and PPI. For example, Regions and states could increase the availability of the plans by more readily sharing the material with communities and emergency responders. Electronic versions would also be easier to share with local fire departments for comment prior to approving the plan.[7]

Since the required contingency plan is inter-related with the PPI, we further recommend that EPA or the states require facilities to include a description of the preparedness and prevention measures as an appendix to the contingency plan. Contingency plans will likely be more effective when they include all relevant information, so that they exist as a "stand alone" document with no need to cross-reference other elements of the permit or permit application. Also, given the size of these plans, permitting authorities should consider having an executive summary included, and including in that summary the names and telephone numbers of all facility personnel qualified to act as emergency coordinators. This type of quick reference would facilitate prompt and effective response in an emergency situation.

Additionally, to ensure the accuracy and currency of PPI, we recommend that permits include conditions to have owners or operators of TSDFs update written information as necessary throughout the lifetime of the permit and provide this information to state and local authorities and first responders. Examples of events necessitating updating written information

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[6] Another national database to which States can submit data is "E-Plan," a database of State EPCRA Tier 2 annual chemical inventory report databases that can be used by emergency responders. Currently, just over half of the States contribute data to E-Plan and EPA is encouraging more States to contribute. The E-Plan form structure has an area for "additional information" which RCRA TSDFs can use to input daily inventory information. See http://erplan.net/eplan for additional information.

[7] In cases where facilities are located in rural areas, the plans should also be shared with the Mayor or Chief Executive Officer of the town where the facility is located, in case there is a voluntary fire department that may not be under the jurisdiction of the town.

include, but are not limited to: change in waste streams treated, significant changes in volumes or quantity of wastes handled, or significant design changes to the facility. Some of these types of events could trigger a permit modification, which under §264.54 would trigger a review and amendment (if necessary) of the facility's contingency plan.

The conditions recommended above all stem from the authority in 40 CFR Parts 264 and 265 to require PPI. As mentioned above, if there are additional facility-specific circumstances where the permitting authority determines that additional requirements are necessary to ensure protection of human health and the environment, then the RCRA "omnibus authority" (RCRA §3005(c)(3), codified at 40 CFR §270.32(b)(2)) may be used to incorporate additional conditions into the permit. For example, if a facility is not staffed outside of normal business hours, then the permitting authority may be able to use the omnibus provision to require a security monitoring system that would alert the facility's emergency coordinator (and possibly local police or fire departments) of any unauthorized entry or fire occurrence. Or, if the facility is not able to enter into arrangements with local authorities (see discussion under Regulatory Framework above), the permitting authority could explore using the omnibus provision to require the facility to contract with private emergency response coordinators.

As mentioned above, the CSB found wide variation in fire protection practices in use at hazardous waste facilities and commented that, "While not required, had EQNC used fire barriers (walls) to separate the segregated waste bays, the fire would likely have been contained within the oxidizer bay, significantly mitigating the incident's consequences." The RCRA omnibus authority is a tool that permitting authorities may use if there are situations like these where additional, facility-specific, requirements may be necessary to ensure protection of human health and the environment. There are examples of State permitting authorities using RCRA's omnibus authority to improve facility design as a first measure for ensuring preparedness and prevention in particular situations. For example, in response to a large-scale fire incident at an Alabama TSDF fuel blender in July 1980, the Alabama Department of Environmental Management (ADEM) has used the "Required Equipment" requirement at 264.32(c) and the RCRA "omnibus authority" to require that fuel blending facilities, and other treatment and storage facilities which treat or store large quantities of ignitable wastes, to be equipped with automated foam-generating fire suppression equipment sufficient to extinguish any fire which might occur in the facility (as opposed to allowing just portable or manual fire-fighting equipment in these areas). In addition, ADEM has imposed minimum aisle space between rows of containers, and limited stacking of containers exceeding 30 gallons capacity to no more than two containers high to enable more effective inspection and response to leaks, as well as more effective fire-fighting capability. ADEM believes the record shows that these measures have helped avoid a repeat incident at any of their facilities. These and similar measures all fall within the overall scope of preparedness and prevention.

Public Involvement and Environmental Justice

Requiring that the waste preparedness and prevention information be provided to local authorities (i.e., LEPCs) and first responders in writing also provides an avenue for public involvement on this important topic. The public involvement regulations in 40 CFR Parts 25, 124 and 270 are intended to foster public awareness and ensure that the Regions and states are

providing the public an opportunity to understand the issues that may have impacts within their community. If the Director of the permitting authority believes sufficient need exists, the regulations allow the Director to require a facility to establish and maintain an information repository in a location easily accessible to the community (see 40 CFR §§124.33 and 270.30(m)). This repository, if required, could hold copies of preparedness and emergency response plans. The public can use this information to better understand their potential risk in an emergency situation and work with local authorities to better understand possible evacuation strategies and emergency response plans.

The Agency's public involvement guidance materials promote interaction among all interested parties, recognizing that both facility owners and operators and regulators have a significant role in ensuring that communities are well-informed about neighboring facilities and their operations. Emergency preparedness and contingency planning are key areas of public interest. Communities expect their governments to take the necessary steps to plan and protect them in the event of an emergency and expect first responders to have the appropriate information on the nature, amount, location, and routes of exposure of hazardous materials and wastes at TSDFs so they can effectively respond to emergency situations. The recommendations included in this memorandum are consistent with the Agency's public involvement regulations and guidance, and will ensure that communities are able to implement timely and effective responses in the event of an emergency. The recommendation to include permit conditions that would require the TSDFs to provide written information to local authorities (i.e., LEPCs) and first responders will help ensure that emergency preparedness and prevention efforts minimize effects to communities that may be impacted by an emergency situation.

Promoting environmental justice for all communities often requires special efforts to connect with those communities that have been historically underrepresented in environmental decision-making. When thinking of meaningful ways to engage all segments of an affected population, facility owners and operators and regulators should be aware that not all communities have equal access to information or an equal opportunity to participate in decision-making processes. Having preparedness, prevention and contingency planning information available locally (and, if appropriate, in a language besides English) will likely provide additional opportunities for members of the community to review the plans and possibly offer suggestions for additions or improvements to response plans.

Additional guidance, including model permits and information on public involvement, is available on the Agency's Internet site at http://www.epa.gov/epawaste/hazard/tsd/permit/index.htm.

For further information, please contact Tricia Buzzell at (703) 308-8622.

cc: Lisa Lund, OC
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Mary Zdanowicz, ASTSWMO
John S. Bresland, CSB

Date: 11.11.09
Revision: 09-1

ATTACHMENT G-7
BUOYANCY CALCULATIONS

Bouyancy can be expressed as:
Apparent immersed weight (AIW) = weight of object – weight of displaced fluid (i.e., water)

Therefore, an object will only float if the AIW is less than the weight of the displaced fluid. Once the entire volume of an object is submurged, the AIW remains constant.

NOTES:

- 1 ft^3 = 7.48 gallons
- Still Bottom density: 0.8 [6.7 lbs/gal (50.12 lbs/ft^3)]
- Water density: 1.0 [8.33 lbs/gal (62.03 lbs/ft^3)]
- TCE density: 1.465 [12.2 lbs/gal (91.26 lbs/ft^3)]
- Cylinder volume: $V = \prod r^2 h$
- Cone: $V = 1/3 \prod r^2 h$
- Cone $SA = \prod r s + \prod r^2$

DRUMS

- Drum dimentions: 22" diameter (1.83') x 34" heigh (2.83')
- Weight of drum: 40 lbs (empty)
- 52 gallons in full drum

The table below shows when a drum plus its contents (52 gallons) will become buoyant based on varying specific gravities.

Specific Gravity		0.8	0.9	1.0	1.1	1.2
Weight of drum & contents		387	430	473	516	560
Height of water	lbs water displaced	AIW				
1 foot	164	223	266	309	352	396
2 feet	328	59	102	145	188	232
2.6 feet	426	B	4	47	90	134
2.83 feet	464	B	B	9	52	96

B = Buoyant, drum will move or float

Drums of waste are typically stacked two high with a pallet between the upper and lower level. For ease of calculations, drums are considered to be directly stacked on top of each other.

Specific Gravity		0.8	0.9	1.0
Weight of drum & contents		774	860	946
Height of water	lbs water displaced	AIW		
1 foot	164	610	696	782
2 feet	328	446	532	618
3 feet	492	282	368	454
4 feet	656	118	204	290
4.8 feet	787	B	73	159
5.66 feet	1103	B	B	B

B = Buoyant, drum will move or float

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ATTACHMENT G-7
BUOYANCY CALCULATIONS

TANKS

Feed tank

- MOC: 304 SS
- SS Density: 0.29 lbs/in^3 (501 lbs/ft^3)
- Dimenstions see Attachment D6
- Legs angle iron (hollow)
- Weight estimated at about 1,000 lbs empty

The tank is elevated from the floor on angle iron legs; the volume of water displaced by the legs is assumed negligable.

The bottom of the cone on the tank is 24 inches from the floor. At a height of 3 feet, the bottom cone on the tank is submurged; this corresponds to a displaced water weight of 461 lbs. Each additional foot above the cone displaces an additional 1,384 lbs of water.

Therefore, even at the current 100-year flood plane depth of 2.6 feet, the empty tank will not be buoyant.

The facility can address future flood levels by either keeping the tank empty or filling it with an appropriate amount of material. At the future flood height of 4.8 feet, just over 330 gallons (1/3 full) will ensure the tank would not be buoyant at specific gravities of less than one.

Specific Gravity		0.8	0.9	1.0	1.1	1.2
Weight of tank & contents		3199	3474	3749	4024	4299
Height of water	lbs water displaced	AIW				
3 feet	461	2738	3013	3288	3563	3838
4 feet	1845	1354	1629	1904	2179	2454
4.8 feet	2952	247	522	797	1072	1347
5 feet	3229	B	245	520	795	1070
5.2 feet	3506	B	B	243	518	793

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ATTACHMENT G-7
BUOYANCY CALCULATIONS

TOTES

Various totes are used at the site. The totes are elevated from the ground approximately six inches. Totes will hold either still bottoms OR product. Totes of product will be full; however, the weight in totes holding still bottoms can vary. Buoyancy of product totes are based on them being filled with TCE.

PLASTIC TOTES

Plastic totes are 41" square.

This equates to 0.972 ft^3 per inch of height, or 60.56 lbs/in for the displacement of water.

The totes are elevated off the ground by about six inches. For calculation purposes, this displacement volume is estimated at 5 gallons (41.65 lbs).

The 275 gallon unit is 42" tall and weighs 140 lbs

The 330 gallon unit is 48" tall and weighs 170 lbs

Product

Container size		275 G	330 G
Weight of tote & contents		3495	4196
Height of water	lbs water displaced	Buoyant (B)/ Non-Buoyant (NB)	
4.8 feet	3092	NB	NB
5 feet	3310	NB	NB
5.2 feet	3455	NB	NB

Still Bottoms

SG = 0.8		275 G	330 G
Height of water	lbs water displaced	Liquid height in tote to be Non-Buoyant	
3 feet	1858	2.91 feet	2.88 feet
3.4 feet	2147	3.5 feet	3.45 feet
3.85 feet	2480	B	4 feet

48.45 lb/in based on still bottoms in tote

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ATTACHMENT G-7
BUOYANCY CALCULATIONS

STAINLESS STEEL (SS) TOTES

The 330 gallon SS totes are 41" x 41" x 48" tall. This equates to 0.972 ft^3 (7.27 gallons) per inch of height. This equates to 0.972 ft^3 per inch of height, or 60.56 lbs/in for the displacement of water.
The totes are elevated off the ground by about six inches. For calculation purposes, this displacement volume is estimated at 5 gallons (41.65 lbs).
The tote weighs 840 lbs.

The 350 gallon SS totes are 41" x 48" x 48" tall. This equates to 1.14 ft^3 (8.5 gallons) per inch of height, or 70.81 lbs/in for the displacement of water.
The totes are elevated off the ground by about six inches. For calculation purposes, this displacement volume is estimated at 5 gallons (41.65 lbs).
The tote weighs 880 lbs.

330 gallon tote		PRODUCT	STILL BOTTOM
		4618 lbs (tote & TCE) (944.4 lbs/ft)	Liquid height for NB (585 lbs/ft)
Height of water	lbs water displaced		
4 feet	2586	NB	3 feet
4.8 feet	3170	NB	4 feet
5 feet	3310	NB	B

NB = Non-buoyant
B = buoyant

350 gallon tote		PRODUCT	STILL BOTTOM
		5286 lbs (tote & TCE) (1101 lbs/ft)	Liquid height for NB (684.9 lbs/ft)
Height of water	lbs water displaced		
4 feet	3019	NB	3.1 feet
4.7 feet	3620	NB	4.4 feet
6.6 feet	4723	B	B

NB = Non-buoyant
B = buoyant

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Authority to Operate in North Carolina
Relevant to Renewal of the Detrex RCRA Permit

Based on information EPA collected via the internet, a company by the name of *Parts Cleaning Technologies of North Carolina, Inc.* ("PCT") acquired the facility at 3114 Cullman Avenue (i.e., the subject of the permit) when PCT purchased the "solvents, environmental, and contract cleaning business unit of Detrex Corp" in 2002. (see www.pct-1.com). PCT's website also states that the owner of PCT was a former Division President of Detrex Corp. although the contact-person noted on PCT's website is one Jason Ridenour. According to the NC Secretary of State's office, PCT was incorporated in the State of Michigan (as was Detrex Corp) on May 14, 2002, and one David Crandell was PCT's president at the time of incorporation. Presumably, Mr. Crandell is the person referenced on PCT's website as the former Detrex Division President and its "owner." PCT's office address as well as it's mailing address are both described as "3114 Cullman Ave., Charlotte, NC, 28206" i.e., the subject facility. The information about PCT on the N.C. Secretary of State's website ends with a "Certificate of Revocation of Certificate of Authority" of PCT effective April 5, 2005, with "failure to file an annual report" provided as the reason for its revocation. This action doesn't mean that the corporation no longer exists as a corporate entity (although that might be so), it simply means that PCT is not authorized to conduct business in the State of North Carolina if the entry is still current and accurate.

Unlike PCT's website, the website for *Detrex Corporation* ("Detrex") has no reference to any particular business operations at 3114 Cullman or even any general reference to any connection with North Carolina. The Detrex website describes a company consisting essentially of two business units: one business unit is a company called Harvel Plastics, Inc. that operates in Pennsylvania, California, and Texas. The second business unit is a company called Elco Corporation that operates as the "Detrex Chemicals Division" and is situated in Cleveland, Ohio. Like PCT, Detrex was incorporated in Michigan, but its date of incorporation is October 3, 1955; the company's principal office is located at 24901 Northwestern Hwy, Suite 410, Southfield Michigan, 48075. Detrex's mailing address, however, is P.O Box 5111, Southfield, Michigan 48086-5111 (the potential relevance of this fact is described more fully below). The N.C. Secretary of State's office sent Detrex a "Notice of Grounds for Revocation of Certificate of Authority" on March 12, 2010. EPA wasn't able to determine whether Detrex came back into compliance or whether it, like PCT, had its authority to operate in North Carolina revoked by the N.C. Secretary of State. Again, EPA has not investigated further to determine if the information on the seb page is accurate and up-to-date.

Based on the real estate lookup for Mecklenburg County, Detrex Corp is the owner of the property located at 3114 Cullman Avenue. These records also reveal that the property was last sold in 1986. Assuming this information is correct, and assuming that PCT indeed did purchase Detrex's business unit operating at the facility, it would seem that PCT purchased the business from Detrex but did not purchase the real property and thus operates at 3114 Cullman as a tenant of Detrex. Buttressing the likelihood that PCT may be operating the business (assuming it in fact is) upon real estate owned by Detrex is the fact that the address to which the county mails the tax bill is that of Detrex, i.e., P.O. Box 511, Southfield Michigan, 48086-5111, and apparently the tax bill is regularly paid in full.

The following pages present the information EPA located in researching this question and are provided for use by the NCDENR hazardous waste program.

Parts Cleaning Technologies
307 Emmett Avenue
Bowling Green, Kentucky 42101
Phone: 270-746-0095
Fax: 270-746-0049
www.pct-1.com
Corporate Headquarters: Southfield, MI

Parts Cleaning Technologies

At a glance:

PCT is a supplier of Industrial and specialty cleaning services and supply processes to the industrial market. Chemical cleaning systems solutions (both solvent and aqueous), waste disposal services, contract cleaning services, processing equipment, customer support services, and special technological services are our main product lines. We provide application specific solutions and equipment, turn-key installations, field service, replacement parts, environmental and analytical laboratory services.

Inception:

PCT purchased the solvents, environmental, and contract cleaning business unit from Detrex Corp *in 2002*. The owner of PCT was a former division president of Detrex Corp. A large percentage of PCT employees including regional managers, chemists, and technical personnel were former Detrex employees for many years, Thus our experience and knowledge regarding cleaning and fluids applications rank PCT in the top of the indusry.
PCT has continued to service the existing Detrex customers as Detrex exited this market. This service includes solvent supply, waste disposal, equipment field service, and other technical support services.

Charlotte Branch
3114 Cullman Avenue
Charlotte, NC 28206
Phone: 704-372-9280
Fax: 704-347-3711
Contact: Jason Ridenour
jridenour@partscleaning.net

Print

Close

Real Estate Lookup

Parcel Information

Parcel ID	Account	Parent	Previous
08303112	NON-NC CORP		

Owner(s)

Owner Name	Mailing Address	City/State
DETREX CORP	PO BOX 5111	SOUTHFIELD MI 48086-5111

Legal Information

Legal	Municipality	Annexed	Special District	Fire District	Acreage
P9 &10 U/M	CHARLOTTE			CITY OF CHARLOTTE	0

Total Parcel Assessment & Exemptions

Building	Land	Features	Total	Exemption	Year Approved	Review Date	Amount
225700	62700	12100	290500				

Sales Information

Sale	Price	Stamps	Qualify	V/I	DeedBook	Type	Legal Ref.	Grantor
Dec 18 1986	200000			IMP	05092 - 651	DEED STAMPS	05092-651	

Land Use

Use	Units	Type	Neighborhood	Assessment
1600	35150.00	SF	IN01	62700
9613	1.00	LT	IN01	0

Building Information

Bldg	Description	Type	Year Built	Property Location
1	DETREX CHEMICAL Warehouse	WAREHOUSE	1964	3114 CULLMAN AV CHARLOTTE

Bldg	Story	Units	Total SqFt	Heated	Foundation	Ext. Wall	Grade	Value
1	1 STORY		11494	10980	SLAB-ABV GRD	FACE BRICK -	AVERAGE 03	225700

Bldg	Heat	Fuel	FirePlace	AC	Fixtures	Bedrooms	Full Baths	3/4 Baths	1/2 Baths
1	AIR-DUCTED	GAS		AC-CENTRAL	6	0	0		0

Sub Areas

Bldg	Description	Size
1	BASE (FIRST FLOOR)	9740
1	LOADING PLATFORM - UNCOVERED	462
1	PORCH - OPEN - FINISHED	552
1	OFFICE - AVERAGE	1140

Depreciation

Bldg	Physical	Functional	Economic	Special	Override
1	AV - 66.00%				

Notes

Tax Year	Notes	Note Date

Special Features & Yard Items

Bldg	Built	Type	Quantity	Units	Value
1	1964	ASPH PAVING	1	11779	18300
1	1964	SPRINKLER	1	10871	3700
1	1961	CONC PAVING	1	1038	1800
1	1991	PENTHOUSE	1	12X21	400

Value Changes

Notice Date	Tax Year	Reason	Changed To	Deferred
Mar 21 2011	2011	Countywide Revaluation	290500	0
Mar 21 2003	2003	Countywide Revaluation	270700	0
Feb 20 1998	1998	Countywide Revaluation	261010	
May 15 1992	1992	Remodeled and/or New Addition	283660	
May 15 1992	1992	Remodeled Improvements and/or New Addit	283660	
May 22 1991	1991	Countywide Revaluation	261050	

Mecklenburg County > Office of the Tax Collector > Property Tax System

Bill Search | Special Assessment Search | Delinquent Bill Search | Personal Property Search

Go To Abstract | New Search | Return

Property Tax Collections
Bill Detail

	DETREX CORP	**Property Tax**	**Real Property**
Description:	**P9 &10 U/M**	Bill Status:	**PAID**
Location:	**3114 CULLMAN AV CHARLOTTE NC 28206**	Bill Flag: Bill #:	**000171XXXX-XXXX-XXXX-0000-00**
Mailing Address:	**PO BOX 5111 SOUTHFIELD MI 48086-5111**	Old Bill #: Old Account #: Due Date:	**9/1/2010**
Parcel #:	**08303112**	Interest Begins:	**1/6/2011**
Lender:			

	Value	Rate	Tax Districts	Description	Amount
Real	$270,700	.8387	MECKLENBURG	Tax	$2,270.36
Deferred	$0	.4586	CHARLOTTE	Tax	$1,241.43
Use	$270,700				Interest: $0.00
Personal	$0				**Total Billed: $3,511.79**
Exempt & Exclusion	$0				
Total Assessed Value	$270,700				

Transaction History

Date	Type	Paid By	Trans #	Amount
9/28/2010	PAYMENT		5808084	$3,511.79

Current Due: $0.00

Correct if paid by

Property Tax Collections
Bill Detail

	DETREX CORP	**Property Tax**	**Real Property**
Description:	**PTL9&10 UNREC MAP 3114 CULLMAN**	Bill Status:	**PAID**
		Bill Flag:	
Location:	**3114 CULLMAN AVEN CHARLOTTE NC 28206**	Bill #:	**0001713952-2003-2003-0000-00**
		Old Bill #:	**20031234057**
Mailing Address:	**PO BOX 5111 SOUTHFIELD MI 48086-5111**	Old Account #:	
		Due Date:	**9/1/2003**
		Interest Begins:	**1/6/2004**
Parcel #:	**08303112**		
Lender:			

	Value	Rate	Tax Districts	Description	Amount
Real	$270,700	.7364	MECKLENBURG	Tax	$1,993.43
Deferred	$0	.4200	CHARLOTTE	Tax	$1,136.94
Use	$270,700				Interest: $0.00
Personal	$0				**Total Billed: $3,130.37**
Exempt & Exclusion	$0				
Total Assessed Value	**$270,700**				

Transaction History

Date	Type	Paid By	Trans #	Amount
12/15/2003	PAYMENT	OTHER	1178361	$3,130.37

Current Due: $0.00

Correct if paid by [redacted]

Elaine F. Marshall
Secretary

North Carolina
DEPARTMENT OF THE SECRETARY OF STATE
PO Box 29622 Raleigh, NC 27626-0622 (919)807-2000

Date: 7/27/2011

Click here to:
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Corporation Names

Name	Name Type
NC DETREX CORPORATION	LEGAL
NC DETREX CHEMICAL INDUSTRIES, INC.	PREV LEGAL

Business Corporation Information

SOSID:	0040625
Status:	Current-Active
Effective Date:	10/3/1955
Dissolution Date:	
Annual Report Due Date:	
Citizenship:	FOREIGN
State of Inc.:	MI
Duration:	PERPETUAL
Annual Report Status:	CURRENT

Registered Agent

Agent Name:	CT CORPORATION SYSTEM
Office Address:	150 FAYETTEVILLE ST., BOX 1011 RALEIGH NC 27601
Mailing Address:	150 FAYETTEVILLE ST., BOX 1011 RALEIGH NC 27601

Principal Office

Office Address:	24901 NORTHWESTERN HWY STE 410 SOUTHFIELD MI 48075
Mailing Address:	PO BOX 5111 SOUTHFIELD MI 48086-5111

Officers

Title:	PRES/CEO
Name:	THOMAS E. MARK
Business Address:	24901 NORTHWESTERN HWY STE 410 SOUTHFIELD MI 48075
Title:	SECRETARY
Name:	ROBERT M. CURRIE
Business Address:	24901 NORTHWESTERN HWY STE 410 SOUTHFIELD MI 48075
Title:	TREASURER/CONTROLLER
Name:	STEVEN J. QUINLAN

State of North Carolina
Department of The Secretary of State

Elaine F. Marshall
SECRETARY OF STATE

Cheri L. Myers
DIRECTOR OF CORPORATIONS

March 12, 2010

Detrex Corporation
CT Corporation System, Agent
150 Fayetteville St., Box 1011
Raleigh, NC 27601

NOTICE OF GROUNDS FOR REVOCATION OF CERTIFICATE OF AUTHORITY OF: Detrex Corporation

Recently, this office conducted an internal review of the annual reports filed for all business corporations in North Carolina. Unfortunately, the review indicates that the above referenced business corporation is not in compliance with the North Carolina Business Corporation Act and is delinquent in delivering two (2) annual report(s).

The Secretary of State is authorized by N.C.G.S. 55-15-31 to revoke the Certificate of Authority of a foreign business corporation if one or more grounds for revocation exist. Please note that while the revocation process has not yet been concluded, this Notice is the first step of the revocation process. In order to prevent revocation of certificate of authority, the business corporation must file the appropriate annual report(s) within sixty (60) days from the date of this Notice.

Determining Annual Reports Due
You may view a listing of annual reports previously submitted to the Secretary of State's Office by clicking the link to the Corporations Division web pages at www.sosnc.com. You will need to search for your company by name, then click "File Annual Report Online." This will bring you to a listing of annual reports submitted. From this page you will be able to see if an annual report was submitted but not filed due to an error which to date has not been corrected and/or determine how many annual reports are required to become compliant. The due date for filing a Business Corporations annual report is the fifteenth day of the fourth month following the fiscal year end date.

Online Filing
Utilize the above referenced link to the entity profile page, then click on "File an Annual Report" at the top of the page and follow the directions. The Fee is $20.00.

Paper Filing
You may also print a pre-populated form from the same web page by clicking "Print a pre-populated annual report form." If there are any changes, cross out the old information and enter the correct information, then mail the report and fees to the Corporations division at the address on the bottom of the form. The fee is $25.00.

If you have any concerns or experience any technical difficulty with the filing process, please contact our staff at (919) 807-2225.

Respectfully,
The Corporations Division

PO BOX 29622
RALEIGH, NORTH CAROLINA 27626-0622

State of North Carolina

Department of The Secretary of State

Elaine F. Marshall
SECRETARY OF STATE

Cheri L. Myers
DIRECTOR OF CORPORATIONS

March 12, 2010

Detrex Corporation
CT Corporation System, Agent
150 Fayetteville St., Box 1011
Raleigh, NC 27601

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If you have any concerns or experience any technical difficulty with the filing process, please contact our staff at (919) 807-2225.

Respectfully,
The Corporations Division

PO BOX 29622
RALEIGH, NORTH CAROLINA 27626-0622

Elaine F. Marshall
Secretary

North Carolina
DEPARTMENT OF THE SECRETARY OF STATE
PO Box 29622 Raleigh, NC 27626-0622 (919)807-2000

Date: 7/27/2011

Click here to:
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Corporation Names

Name	Name Type
NC PARTS CLEANING TECHNOLOGIES OF NORTH CAROLINA, INC.	LEGAL

Business Corporation Information

SOSID:	0636351
Status:	Revoked
Effective Date:	6/26/2002
Dissolution Date:	
Annual Report Due Date:	
Citizenship:	FOREIGN
State of Inc.:	MI
Duration:	PERPETUAL

Registered Agent

Agent Name:	SECRETARY OF STATE
Office Address:	2 SOUTH SALISBURY STREET RALEIGH NC 27601
Mailing Address:	2 SOUTH SALISBURY STREET RALEIGH NC 27601

Principal Office

Office Address:	3114 CULLMAN AVE. CHARLOTTE NC 28206
Mailing Address:	3114 CULLMAN AVE. CHARLOTTE NC 28206

Officers

22 157 5038

SOSID: 636351
Date Filed: 6/26/2002 12:03 PM
Elaine F. Marshall
North Carolina Secretary of State

State of North Carolina
Department of the Secretary of State

APPLICATION FOR CERTIFICATE OF AUTHORITY

Pursuant to §55-15-03 of the General Statutes of North Carolina, the undersigned corporation hereby applies for a Certificate of Authority to transact business in the State of North Carolina, and for that purpose submits the following:

1. The name of the corporation is Parts Cleaning Technologies of North Carolina, Inc.; and if the corporate name is unavailable for use in the State of North Carolina, the name the corporation wishes to use is:

2. The state or country under whose laws the corporation was organized is: Michigan

3. The date of incorporation was May 14, 2002; its period of duration is: perpetual

4. Principal office information: *(Select either a or b.)*

   a. ☒ The corporation has a principal office.

   The street address and county of the principal office of the corporation is:

   Number and Street 24482 Redwing Dr.

   City, State, Zip Code Novi, MI 48374 County Wayne

   The mailing address, *if different from the street address*, of the principal office of the corporation is:
   Same as Above

   b. ☐ The corporation does not have a principal office.

5. The street address and county of the registered office in the State of North Carolina is:

   Number and Street 3114 Cullman Ave.

   City, State, Zip Code Charlotte, NC 28206 County Mecklenburg

6. The mailing address, *if different from the street address*, of the registered office in the State of North Carolina is:
   Same as Above

7. The name of the registered agent in the State of North Carolina is: Bob Benson

8. The names, titles, and usual business addresses of the current officers of the corporation are (attach if necessary):

Name	*Title*	*Business Address*
David Crandell	President	24482 Redwing Dr., Novi, MI 48374

CORPORATIONS DIVISION
(Revised January, 2002)

P. O. BOX 29622

RALEIGH, NC 27626-0622
(Form B-09)

APPLICATION FOR CERTIFICATE OF AUTHORITY

Page 2

9. Attached is a Certificate of Existence (or document of similar import) duly authenticated by the Secretary of State or other official having custody of corporate records in the state or country of incorporation. ***The Certificate of Existence must be an original and less than six months old.***

10. If the corporation is required to use a fictitious name in order to transact business in this State, a copy of the resolution of its board of directors, certified by its secretary, adopting the fictitious name is attached.

11. This application will be effective upon filing, unless a delayed date and/or time is specified:

This is the 22nd day of May, 2002

Parts Cleaning Technologies of North Carolina, Inc.
Name of Corporation

David Crandell
Signature

David Crandell, President
Type or Print Name and Title

Lansing, Michigan

This is to Certify That

PARTS CLEANING TECHNOLOGIES OF NORTH CAROLINA, INC.

was validly incorporated on May 14, 2002, as a Michigan profit corporation, and said corporation is validly in existence under the laws of this state.

This certificate is issued to attest to the fact that the corporation is in good standing in Michigan as of this date and is duly authorized to transact business or conduct affairs in Michigan and for no other purpose.

This certificate is in due form, made by me as the proper officer, and is entitled to have full faith and credit given it in every court and office within the United States.

In testimony whereof, I have hereunto set my hand, in the City of Lansing, this 12th day of June, 2002.

, Director

Bureau of Commercial Services

GOLD SEAL APPEARS ONLY ON ORIGINAL

NOTICE TO REGISTERED AGENT:
Under N.C.G.S. Section 55-15-07, it is the duty of the registered agent to forward the certificate attached below to the corporation at it last known address.

Parts Cleaning Technologies of North Carolina, Inc. (5474696)
24482 Redwing Dr.
Novi, MI 48374

STATE OF NORTH CAROLINA
DEPARTMENT OF THE SECRETARY OF STATE

CERTIFICATE OF REVOCATION
OF
CERTIFICATE OF AUTHORITY

I, Elaine F. Marshall, Secretary of State, as mandated by law, do hereby certify that the certificate of authority of

Parts Cleaning Technologies of North Carolina, Inc.

to transact business in the state of North Carolina has been revoked pursuant to the procedures set forth in N.C.G.S. Section 55-15-30 for failure to file an annual report effective as of the date set forth hereunder.

This the 5th day of April, 2005.

Elaine F. Marshall

Elaine F. Marshall
Secretary of State

State of North Carolina
Department of the Secretary of State

ELAINE F. MARSHALL
SECRETARY OF STATE

CHARLENE P. DAWKINS
DIRECTOR, CORPORATIONS

July 6, 2004

Parts Cleaning Technologies of North Carolina, Inc.
Bob Benson
24482 Redwing Dr.
Novi, MI 48374

NOTICE OF GROUNDS FOR REVOCATION OF CERTIFICATE OF AUTHORITY of Parts Cleaning Technologies of North Carolina, Inc.

Recently, this office conducted an internal review of the records filed here for all business corporations in North Carolina. Unfortunately, the review indicates that the above referenced business corporation is not in compliance with the North Carolina Business Corporation Act for the reason(s) mentioned below.

1. The corporation is delinquent in delivering its annual report(s).

The Secretary of State is required by N.C.G.S. 55-15-30 to revoke the certificate of authority of a business corporation if one or more grounds for revocation exist. Please note that while this revocation has not yet been concluded, this Notice is a part of the revocation process. In order to prevent revocation, the business corporation must correct each ground for revocation within 60 days from the date of this Notice as follows:

Annual Report Delinquency
Complete all outstanding annual report(s), and pay the statutory filing fee for each year the business corporation is delinquent ($10 for each year 1991-1997; $20 each year thereafter). You may file the annual report(s) online at www.sosnc.com . Search for your company by name, then "View Your Document Filings" to determine the number of annual reports that are due. One report is required for each year.

You may also print a pre-populated form at the web address stated above, and mail the report and fees to the Corporations division. Contact our staff should you need help at (919) 807-2225.

If you believe this action to be in error or if you have questions concerning this Notice, please contact the Corporations Division at (919) 807-2225.

Charlene P. Dawkins
Director of Corporations

PO BOX 29622
RALEIGH, NORTH CAROLINA 27626-0622

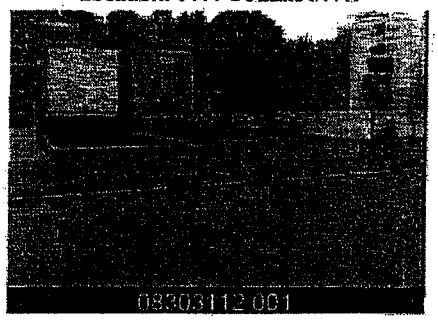
Mecklenburg County, North Carolina
POLARIS
Parcel Ownership and GIS Summary
Date and Time: 7/28/2011 11:41:11 AM

Parcel ID #: 08303112 GIS ID #: 08303112	
Owner Name:	DETREX CORP
Mailing Address:	PO BOX 5111 SOUTHFIELD, MI 48086-5111
Property Characteristics	
Legal Desc.:	P9 &10 U/M
Land Area:	35150 SF
Fire District:	00-CITY OF CHARLOTTE
Special District:	N/A
Account Type:	NON-NC CORP
Municipality:	1-CHARLOTTE
Property Use:	WAREHOUSE
Deed Reference(s) and Sales Price	
05392-651 (12/18/1986) $200,000.00	
Situs Addresses Tied to This Parcel	
3114 CULLMAN AV	
Site Location Information	
Zoning Boundaries:	Contact Appropriate Planning Department or See Map.
ETJ Area: CHARLOTTE	
Charlotte Historic Districts: NO	
Within Charlotte 6/30/2011 Annexation Area: NO	
Census Tract #: 53.01	
Parcel Falls Inside a Water Quality Buffer?: NO	
Post Construction District	
Jurisdiction:	Charlotte
District:	Central Catawba

FEMA Flood Information	
FEMA Panel #:	3710455500J
FEMA Flood Zone:	IN:VIEW FEMA FLOODPLAIN TO VERIFY
FEMA Panel Date:	03/02/2009
Community Flood Information	
Community Flood Zone:	IN:VIEW COMMUNITY FLOODPLAIN TO VERIFY
Regulated Watershed Information	
Watershed Name:	UPPER LITTLE SUGAR
Watershed Class:	

Building Photography

PHOTO #1
Location: 3114 CULLMAN AV



Information contained within this photo may be used as a visual aid and to generally locate, identify, and inventory parcels in Mecklenburg County, North Carolina. There are inherent errors and limitations associated with this type of electronic medium. Mecklenburg County cannot warrant or guarantee the information contained herein including but not limited to its accuracy or completeness.

Powered by

The information provided by this program is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. Users of this map data are hereby notified that the aforementioned public primary information sources should be consulted for verification of the information. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

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U. S. Environmental Protection Agency's Engineering Analysis of Detrex Corporation's Washout Demonstration

What follows is an engineering analysis of Detrex Corporation's (Detrex) washout demonstration for its facility located at 3114 Cullman Avenue, in Charlotte, North Carolina. A request for the analysis was contained in correspondence dated June 21, 2010, from Kathleen Lawson, North Carolina Department of Environment and Natural Resources (NCDENR), to Otis Johnson, U.S. EPA Region 4 (the Lawson request). Facility-specific information and a number of operational assumptions underlying the analysis were gleaned from the Lawson request and Detrex's buoyancy calculations which NCDENR also provided. For example, the analysis presumes that the facility's operation is subject to State and/or Federal RCRA requirements and that Detrex had submitted a complete RCRA permit renewal application consistent with standards set out at 40 CFR §124.31 and 40 CFR Part 270 Subpart B and expressly adopted by NCDENR. These requirements were applied to facility-specific information for the purpose of determining whether Detrex would have met its burden of demonstrating that no adverse effects on human health or the environment would result from a flood event. For this analysis, the EPA also has presumptively concluded that maps published by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA), or their functional equivalent, would clearly establish that the Detrex facility at 3114 Cullman Avenue in Charlotte, North Carolina is located within a 100-year flood plain of nearby Little Sugar Creek. Finally, the analysis presumes that the facility's owner and operator has collaborated with local and State emergency planning committees throughout the RCRA permit renewal process, including the pre-application stage[1], and further will comply with the preparedness and prevention requirements of 40 CFR Part 264 Subpart C and the contingency planning requirements of 40 CFR Part 264 Subpart D. The Lawson request and Detrex's four (4) buoyancy calculations are included as appendixes with this analysis.

Operational and Regulatory Background of the Facility

The Detrex Corporation operates a hazardous waste storage and treatment facility located at 3114 Cullman Avenue in Charlotte, North Carolina. At its facility, Detrex manages hazardous waste in plastic totes, stainless steel totes, 55-gallon drums, and a tank[2]. The facility has been operating at its present location since 1969. The facility pre-dates the Subtitle C requirements of the Solid Waste Disposal Act (SWDA), as amended, and the implementing regulations in 40 CFR Parts 260 through 271. The facility is located in the 100-year flood plain of Little Sugar Creek. The facility received its first RCRA permit in 1983, and the permit was renewed in 1997. The 1997 permit expired and Detrex submitted a permit renewal application for consideration. A public hearing was held in October 2009 on the draft renewal permit. Two comments were received. Both commenters stated that Detrex would not have sufficient time to remove hazardous waste from its facility to a safe location not threatened by flooding. However, the first commenter favored renewal of Detrex's RCRA Permit for the facility provided the contingency plan was revised to address the procedures used to identify potential flood conditions. The second

[1] The owner and operator of such a facility typically would be expected to comply with pre-application requirements found at 40 CFR §124.31 if the renewal application includes a significant change that would qualify as a class 3 permit modification under 40 CFR § 270.42.

[2] Detrex Corporation also manages hazardous waste in trailers. As a special condition in the RCRA renewal permit, Detrex Corporation will be required to securely fasten the doors of the trailers at the end of each business day and the trailers must be tied down to immobilize them in the event of a flood.

commenter opposed renewal of the RCRA permit; the second commenter also expressed concerned that future flood waters will rise at least two feet higher than the highest flood level recorded at the facility to-date.

Under 40 CFR §264.10(b), the floodplain standards found in §264.18(b) apply only to owners and operators of facilities subject to regulation under Subparts I through O and Subpart X of Part 264. Operation of the facility presumptively is subject to the container and tank management standards found in Subparts I and J of Part 264 and hence is subject to the floodplain standards. On two separate occasions, once in 1997 and again in 2008, the facility was partially submerged due to flooding. The flooding was triggered by a debris-clogged (1997) or partially blocked (2008) culvert. A facility located in a flood plain is subject to requirements found at 40 CFR §264.18(b)(1), which explains that a facility's owner and operator must demonstrate that no adverse effects on human health or the environment will result during a flood event, regardless of the source of the floodwater. Since no regulatory distinction is made between artificial and natural flood events, the flood events experienced by the facility will be treated in this analysis the same as would any flooding event for the purpose of evaluating whether hazardous waste will wash out of the facility into the environment. It may be noteworthy that the term "washout" is defined at 40 CFR §264.18(b)(2)(ii) to mean the movement of hazardous waste from the active portion of the facility as a result of flooding.

The owner and operator of an "existing RCRA facility"[3] located in a 100-year flood plain must demonstrate, using either of two methods, that no harm will result to human health or the environment if a flood event threatens to "washout" hazardous waste from the Facility into the environment. Under the first method, the owner and operator must demonstrate that the hazardous waste can be removed safely to a location not vulnerable to flood waters before flood waters reach the facility (see 40 CFR §264.18(b)(1)(i) and 40 CFR §270.14(b)(11)(iv)(C) for details). Under the second method, the owner and operator must demonstrate that no harm to human health or the environment will result even if the wastes cannot be removed to a safe area before flood waters reach the facility (see 40 CFR §264.18(b)(1)(ii) and 47 FR 32290). We realize for the purpose of this analysis that it is not possible in all instances to remove hazardous waste from waste management units before flood waters reach the units. Under the second method, the owner and operator must consider the factors presented in 40 CFR §264.18(b)(1)(ii)(A)-(D) and must furnish the information required in 40 CFR §270.14(b)(11)(iv)(A)-(B) when making the demonstration.

The owner and operator of the Detrex facility elected to make its demonstration under the requirements of 40 CFR §264.18(b)(1)(ii) presuming that the flood waters along Little Sugar Creek tend to rise too quickly for the hazardous wastes to be removed from the facility in a timely manner. Under this option for demonstrating that no harm to human health or the environment will result if the facility experiences flooding, requirements set out at 40 CFR §270.14(b)(11)(iv)(A) and (B) direct a facility to provide an engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site, as well as structural or other engineering studies showing the design of operational units and flood protection devices at the facility and how they will prevent washout.

---

3 An "existing RCRA facility" is defined at 40 CFR §270.2 to be a facility that was operating or that was under construction on or before November 19, 1980.

Engineering Analysis

It is the EPA's opinion that, in the RCRA Part B permit renewal application, Detrex Corporation provided the required structural and engineering analyses to show how the facility will guard against washout during a 100-year flood. The facility showed that no releases of hazardous wastes occurred during flooding events in 1997 and 2008. In 1997 unusually heavy rains filled the nearby culvert with debris and resulted in a flood at the facility. The 2008 flood was caused by dumpsters that floated down stream and blocked the culvert bringing the water up to the floor level of the building, but not inside. In both cases flood waters receded over a six-hour period. During the peak of the 1997 flooding event, the floor of the storage building was submerged under three feet of water. Only empty containers floated in the flood waters. These buoyant vessels remained inside the hazardous waste storage building at the facility. The buoyancy calculations (provided in Attachment G-7 of the Part B renewal application) for wastes stored in plastic totes, stainless steel totes, 55-gallon drums, and a stainless steel tank are sufficient to support Detrex's assertion that hazardous wastes will not be washed into the environment during a 100-year flood along Little Sugar Creek. Accordingly, the calculations adequately address considerations found at 40 CFR §264.18(b)(1)(ii)(A)-(D).

Detrex apparently did not provide an engineering analysis of the hydrodynamic and hydrostatic forces expected to result at the site in the event of another 100-year flood, but the outcomes of the flood events in 1997 and 2008 eliminate the need for Detrex to expound on the obvious fact that hydrodynamic and hydrostatic forces were insufficient to cause hazardous waste to be washed into the environment. The EPA's engineering analysis of the potential forces suggests that neither hydrodynamic nor hydrostatic force is likely to cause a release of hazardous waste to the environment. During a flooding event, hydrodynamic forces will rise along the bed of Little Sugar Creek because a substantially higher quantity of water must pass through a small cross-sectional area of flow, thus resulting in a significantly higher flow velocity in the creek. Once water overflows the creek banks due to the clogged or blocked culvert, the cross-sectional flow area increases dramatically and the flow velocity decreases precipitously. Flooding in the vicinity of the facility (which itself is approximately 400 feet from Little Sugar Creek) results in a relatively slow rise in the water level of the creek basin accompanied by a correspondingly low lateral flow rate. Hydrodynamic forces decrease and become negligible as distance from Little Sugar Creek increases. Consequently, hydrodynamic forces on the waste containers and the tank will not be sufficient to either move or rupture them. When the drums are double stacked, i.e., one atop another, the weight of the properly sealed drums is sufficient to withstand the force exerted by three feet of pooled flood waters from Little Sugar Creek, and thereby keep the drums immobile.

The waste containers and tank at the facility are confined to an enclosed building. Data pertaining to the 1997 flood, an actual 100-year flood event, indicated water seeped into the building and rose to a height of three feet above the floor (note that the plastic totes are three and one-half feet tall and four feet tall; the stainless steel totes are four feet tall; and the 55-gallon drums are two and three-quarters feet tall). As flood water seeps into the building, the seepage will cause a gradual rise in the water level in the building without an appreciable increase in lateral water velocity. Atmospheric pressure is the same for the tank, the drums, and the totes as it is for the surface of the flood water. Constant pressure means that the motion of flood water saturating the floodplain can be treated as open channel flow. As the computations in the ensuing paragraphs show, three feet of ponded flood water in the storage building will not generate enough hydrostatic force to rupture partially submerged waste containers. Even in the event of a catastrophic collapse of a wall, resulting in the waste containers being directly in the path of

lateral flow of the rising flood waters, the hydrodynamic and the hydrostatic forces generated by the water pooled in the container storage building will not be significant enough to damage or move the containers.

Even if the flood waters crest two or three feet higher than they did in 1997, as predicted by one of the commenter's during the public hearing on the draft renewal permit, the hydrodynamic and hydrostatic forces would not be sufficient to dislodge double-stacked drums, the totes, and the tank from the building. In order to compute the hydrostatic force exerted by the flood water on the outer wall of each drum sitting on the bottom of double-stacked drums, the flood water has been treated as an incompressible fluid. This analysis assumes that there is little or no motion between water particles in the flooded storage building. If there is little or no motion between the particles, the hydrodynamic force on each drum is either negligible or zero. The bottom drums rest six inches above the floor on pallets. Since there are no shear forces acting on the bottom drums, the hydrostatic force of the flood water can be computed using the following fluid statics equation for a partially submerged object:

$$F_{H2O} = (\rho\, g/g_c\, \sin\theta)\, y_c\, A$$

where ρ is the density of water (= 62.2 lb_m/ft^3), g is the acceleration due to gravity, g_c is the numerical value of the standard acceleration due to gravity, θ is the angle at which the hydrostatic force is applied, y_c is the y coordinate of the centroid of a surface, and A is the area over which the force is applied. The previous 100-year flood crested at three feet above floor level in the storage building. Each drum is 2.83 feet tall and 1.83 feet in diameter. The area of the side of a drum is defined by the relationship $A = 2\pi rh$ where r = the radius of the drum and h = the height of the drum. At the peak of the 100-year flood, each bottom drum was partially submerged in two and one-half feet of water. Substituting,

$$F_{H2O} = 62.2\ lb_m/ft^3 \times 32.2\ ft/sec^2 \div 32.2\ lb_m/lb_f - ft/sec^2 \times \sin 90^\circ \times 2.5\ ft \times 2(2.14)(0.915)(2.83)$$

$$F_{H2O} = (62.2)(2.5)(11.089) = 1{,}723\ lb_f$$

Similarly, the hydrostatic force exerted by the trichloroethylene (TCE) on the inner wall of each bottom drum can be computed using the following relationship:

$$F_{TCE} = (\rho\, g/g_c\, \sin\theta)\, y_c\, A$$

The density of TCE is 1.46 grams/cm^3 = 118 lb_f/ft^3

Substituting,

$$F_{TCE} = (118)(2.5)(11.08) = 3{,}269\ lb_f$$

Since the hydrostatic force exerted by the trichloroethylene (TCE) on the inner wall of each bottom drum is greater than the hydrostatic force exerted by the flood water on the outer wall of same, there is no danger of the bottom drums imploding and releasing their contents into the environment. To reduce the risk gravitational stress contributes to potential structural failure of a drum and to enhance the stability of each set of double-stacked drums, the bottom drum should always contain waste of higher specific gravity and greater volume than the drum on top. Stated in simpler terms, a heavier drum should not be placed atop a lighter drum in order to reduce the risk of structural failure and loss of the bottom drum's contents.

This formula can also be used to compute the hydrostatic forces on the outer and inner walls of the plastic and stainless steel totes providing similar results since they contain similar wastes.

Buoyancy computations for the smallest tote (275 gallons) show that when these containers are filled with TCE, they remain immobile in five feet of water. When filled with still bottoms, however, they remain immobile in only three and one-third feet of water. The totes are elevated six inches above the floor and the highest water level recorded in the storage building during the 100-year flood event was three feet above floor level. So, the smallest totes were partially submerged in only two and one-half feet of flood water. If the smallest tote was filled with still bottoms, its weight was sufficient to remain immobile during the 100-year flood. Similar comparisons can be drawn for the totes of 330 gallons and 350 gallons capacity. Detrex has shown that the contents of full totes will remain immobile in a 100-year flood event and will not wash into the environment.

Buoyancy computations for a cylindrical feed tank (seven feet long and five and one-third feet in diameter) partially filled with TCE and mounted two feet above floor level on four legs show that the weight of the tank is sufficient to remain immobile in three feet of flood water. Previous flood events have shown that the load-bearing capacity of the storage room floor is sufficient to carry the weight of three feet of flood water and the weight of the double-stacked drums, the totes and the tank.

Therefore, the EPA agrees with Detrex's opinion that hydrostatic and hydrodynamic forces expected to result at the facility during a 100-year flood event will not lead to hazardous waste washout.

Special Provisions of the Proposed Renewal Permit

This portion of the analysis relates to NCDENR's plan to introduce four special conditions to the proposed renewal permit for the facility. The proposed conditions will make the containers and trailers more secure in a flood. Even if the flood waters rise two feet higher than previously recorded at the facility, the buoyancy calculations indicate that, if securely closed and sealed, double-stacked drums, full totes, and a tank filled to one-third its capacity at all times will not be affected. The EPA believes each of the special conditions is appropriate and that they reflect good contingency planning by Detrex, the Mecklenburg County local emergency planning committee, and NCDENR (see 40 CFR § 264.37).

The EPA recommends, however, that NCDENR consider adding one more special condition, as follows:

In a memorandum dated May 5, 2010, the EPA addressed "Preparedness and Prevention Requirements for RCRA TSDFs." The memorandum provides guidance to RCRA permitting authorities on the breadth of their authority and the need, from time-to-time, to include special conditions in RCRA permits to protect human health and the environment. The memorandum strongly encourages permitting authorities to write permit conditions requiring RCRA TSDFs to provide written information regarding waste quantities, types, and locations to state and local authorities and first responders for the purpose of emergency preparedness and prevention. Most states require emergency planning and response information to be submitted in an electronic format. Increasingly, emergency responders are using laptop computers and other portable electronic equipment to quickly retrieve hazard information. As a result, the EPA is encouraging states to include permit conditions requiring RCRA TSDFs to submit emergency planning information in electronic format so it can be easily integrated, stored and retrieved for use by emergency responders.

The EPA recommends that RCRA TSDFs be required to use a national Web-based tool known as "*E-Plan*" which allows RCRA TSDFs to update their hazardous waste inventories daily. The EPA recommends that NCDENR consider adding such a special condition to the renewal permit for the Detrex facility. The EPA concurs with NCDENR's special conditions for the proposed renewal permit and has no objections to renewal of Detrex's Permit based on what it has learned to-date.

Other Considerations

The EPA believes that appropriate steps should be taken by the owner of the culvert to reduce the risk of flooding in the vicinity of the Detrex facility. Erecting a screen or similar barrier to prevent the culvert from clogging with debris during storms and heavy rainfall events is strongly recommended.

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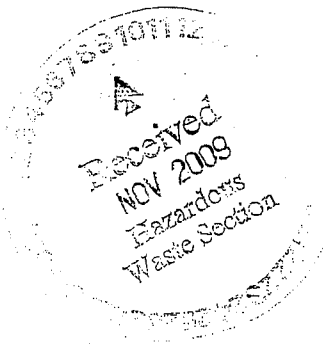
MECKLENBURG COUNTY
Land Use and Environmental Services Agency
Flood Mitigation Program

November 3, 2009

Elizabeth W. Cannon
NC Division of Waste management
Hazardous Waste Section
MSC 1646
401 Oberlin Rd, Suite 150
Raleigh, NC 27699-1646



Re: Hazardous Waste Management Permit
Permit Comments
Detrex Corporation
EPA ID # NCD 049 773 245

Dear Ms. Cannon:

Mecklenburg County Flood Mitigation (MCFM) is a division of Mecklenburg County Land Use and Environmental Services Agency (LUESA). We appreciate the opportunity to comment on the issuance of the renewal of the Detrex Corporation Hazardous Waste Renewal Permit. MCFM recommends denial of the permit renewal.

MCFM administers the flood damage prevention ordinance for the City of Charlotte. The Detrex Corporation lies within the floodplain of Little Sugar Creek in Charlotte. This property has an extremely high level of risk from flooding and storage of any type of material is at risk of being inundated by flood waters. Storage and processing of hazardous waste on this site is very unsafe and in fact a new hazardous waste management facility could not be constructed on this site today in accordance with current local and state floodplain regulations.

Listed below are some flood risk data that reiterate the extreme flood risk at this site. The flood elevation data are from the current National Flood Insurance Program Flood Insurance Study for the City of Charlotte (March 4, 2009) The ground and building elevations are from field surveys completed by Dewberry Inc in the mid 1990s.

Flood Depth Above GROUND

10-year (10% annual chance)	2.4 feet
50-year (2 % annual chance)	5.8 feet
100-year (1 % annual chance)	7.0 feet
100-year (1% annual chance) future	9.2 feet
500-year (0.2% annual chance)	13.6 feet

Flood Depth Above LOWEST FLOOR

10-year (10% annual chance)	- 2.0 feet
50-year (2 % annual chance)	1.4 feet
100-year (1 % annual chance)	2.6 feet
100-year (1% annual chance) future	4.8 feet
500-year (0.2% annual chance)	9.2 feet

One possible method to help reduce flood risk at the site would be the use a private flood warning system to provide early notification of possible flooding. Mecklenburg County has a flood notification system, but it is not available for public use at this point in time. A flood warning system could allow for the materials to be secured or relocated to higher ground prior to flooding. However, this site is located in the upper reaches of the Little Sugar Creek watershed which allows for a very short warning time, probably in the 10-20 minute range. This probably would not provide adequate lead time to allow for the relocation of materials. In addition there could be many false alarms

I trust this information will assist in your decision to approve or disapprove the hazardous waste renewal permit for Detrex Corporation. If you have any questions, please call me at 704-336-3734 or email, bill.tingle@mecklenburgcountync.gov.

Sincerely,

Bill Tingle

Bill Tingle
Floodplain Administrator

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Waste Management
Dexter R. Matthews
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

June 21, 2010

Mr. Otis Johnson
Waste Management Division
US EPA, Region 4
61 Forsyth Street SW
Atlanta, Georgia 30303

Re: Technical Opinion Request
Flood Requirement Demonstration for Detrex Corporation, Charlotte North Carolina
EPA ID # NCD 049 773 245

Dear Mr. Johnson:

The North Carolina Division of Waste Management, Hazardous Waste Section (HWS) is formally requesting your technical opinion on the enclosed demonstration that Detrex Corporation meets the regulatory requirements for preventing washout when a facility is located in a 100-year floodplain.

According to 40 CFR 264,18(b) and 270.14(b)(11)(iii), which have been adopted in 15A NCAC 13A .0109 and .0113 respectively of the North Carolina regulations, there are conditions under which a facility may be permitted even though it lies within a 100-year floodplain. North Carolina has stricter standards in 15A NCAC 13A .0109(r) which states that facilities must be located at least 100 yards from a 100-year floodplain with the exception that existing hazardous waste management facilities as defined in 40 CFR 262.10 as adopted in 15A NCAC 13A .0102 must meet these location standards to the best of their ability. Detrex meets these standards as follows:

- Detrex Corporation has been located at 3114 Cullman Avenue, Charlotte, North Carolina since 1969, which makes it an existing facility.
- Detrex was already located in the 100-year floodplain when they received their first RCRA Hazardous Waste Management Permit in 1983 and has always been required to meet the 100-year floodplain standards.
- Detrex is a permitted commercial facility that stores and treats hazardous waste in containers, a 1,000-gallon tank and a LUWA distillation unit.

Detrex's draft renewal permit was issued on September 27, 2009. (This is the second renewal of the permit.) The comment period started on that date and ended November 11, 2009. The public hearing was held on October 29, 2009. Two comments were received during the public comment period.

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-508-8400 \ FAX: 919-715-4061 \ Internet: www.wastenotnc.org

The Charlotte/Mecklenburg Fire Battalion Chief spoke at the public hearing (and provided written comments) regarding his concern for the trigger of Detrex's flood plan, which was the flood water reaching the street. This is also the fire departments trigger to close the street. Consequently, Detrex cannot get the waste off-site once the water has reached the street.

The other commenter was the Mecklenburg County Land Use and Environmental Services Agency (LUESA). They too are concerned about the short period of time Detrex has available to them to get waste off-site in the event of a flood. LUESA expressed their concern that the warning time for Detrex is very short on the order of ten to twenty minutes, but presented no data back up these numbers. In their written comments, LEUSA has also provided current 100-yead flood levels which appear accurate. In addition they provided a future 100-year flood level projection, indicating a predicted level an additional two plus feet above that currently in effect. However, LEUSA presented no data to back up their predicted 100-year flood level or date upon which these new levels will become effective.

These are valid concerns given that the Detrex facility is not flood-proof. Water will enter the building should it reach the top level of the secondary containment berms. However, the regulations require that the facility either 1) provide engineering analysis to indicate that the various hydrodynamic and hydrostatic forces expected to result at the site. and the structural or other engineering studies showing the design of operational units and flood protection devices at the facility and how they will prevent washout or, 2) a detailed description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded.

As a result of these comments, the application and contingency plan have been rewritten to demonstrate that the facility does meet the 100-year flood requirements without removing the waste from the facility. In addition three new permit conditions have been added to the proposed renewal permit to address these issues.

To more fully clarify this situation, I am providing you with some background information regarding the facility. Detrex was issued its first permit in 1983. (It was, in fact, the second RCRA Hazardous Waste Management Permit issued by this office.) The renewal permit was issued in 1997. The delay in issuing the renewal was caused by; 1) it was one of the first operating permit renewals done by this office, and 2) the facility proposed major changes to the structure that were later withdrawn due do financial constraints on the part of the applicant. The resulting permit only differed from the original permit with the closure of the outdoor tank, the addition of some new wastes, the addition of storing flammables in two trailers in the outside loading dock, and the addition of some berms to create new units. However, the overall operation of the facility remained the same.

The timing for the issuance of the 1997 renewal followed on the heels of a 100-year flood of the facility. The timeline associated with the permit issuance process and the flooding event was as follows:

- July 23, 1997 – remnants of Hurricane Danny came through Charlotte, North Carolina at 2:00 a.m. flooding Detrex to the 100-year flood level.
- July 23, 1997 – Detrex notified DENR of the flood event by telephone.
- July 23, 1997 – The Resident Inspector, Patti Arms, was at the site.
- July 23, 1997 – The flood waters receded and Detrex personnel were allowed to return to the facility the same day.
- July 31, 1997 – DENR notified Detrex that their application was complete.
- Aug. 7, 1997 – Detrex notified DENR in writing of the flood.
- Sept. 23, 1997 – Public notice sent to newspapers and radio.
- Sept. 29, 1997 – The draft permit was public noticed.

- Nov. 6, 1997 – Public hearing held – No public attended.
- Nov. 12, 1997 – The public comment period ended. No comments were received during the comment period except from the facility
- Dec. 29, 1997 – The permit was issued.

The facility flooded because the unique location of Detrex and the conditions associated with the storm. Detrex is located one block away from Little Sugar Creek and near where Cullman Avenue ends in a cul-de-sac. Just beyond the cul-de-sac Little Sugar Creek runs through a culvert under the Norfolk-Southern Railway. As the remnants of hurricane Danny came through Charlotte, fresh cut debris was washed down Little Sugar Creek and blocked the culvert under the railway. The creek backed up to the point of running over the railway, thereby creating the 100-year flood upstream of the culvert. During this 100-year flood, the water at Detrex was approximately seven (7) feet deep outside the building. Detrex's floor is four (4) feet above ground level which let water into the building at a depth of about three (3) feet. During this flood event, the following happened:

- Water entered the building to a depth of approximately three feet above floor level, just below the height of a single drum.
- The waste containers (drums) were stacked and did not move
- The only containers to float were empty ones which set off the motion detectors.
- The interior waste interior waste tanks, mounted on three foot legs, did not move.
- The exterior waste tank was empty, along with the all but one other exterior product tank.
  The flood water exceeded the height of the secondary containment wall for the outdoor tanks and they came loose from their moorings, floating like corks within the secondary containment. The only thing that held them in place was the four foot chain link fence atop the five foot containment wall.
- Based on facility knowledge, observations made at the time of the flood and that all materials were removed without a single container failure, it was determined by the facility that no waste was lost during this event.
- Detrex did lose all their records and computers, and as a result had to change their record keeping plans to maintain an extra copy off-site.

Note that Detrex was notified of this flood at 2:00 a.m. The flood waters crested at around 6:00 a.m. and had receded back to allow entry by vehicles about noon the same day.

Detrex has since suffered one other major flood event. This occurred in 2008 when a localized storm caused Little Sugar Creek to overflow its banks. The flooding was again due to the blockage of the culvert under the Norfolk-Southern Railway, this time by refuse containers for the businesses on Cullman Avenue that floated down the swollen stream. The water level rose to the top of the containers and then flowed through the culvert. This brought the water level up to the floor of Detrex's facility, but not over the secondary containment nor into the building.

Changes in the facility's operation for this renewal include the removal of three of the four indoor tanks. These tanks have been clean closed and removed in accordance with their approved closure plan. Other changes were required due to the passage of North Carolina Session Law 2007-107. In addition the contingency plan has been altered since the public comment period to satisfy the 100-year floodplain location requirements. With these contingency steps in mind, the HWS has decided to add the following three special Permit Conditions to Detrex's permit:

II.K.4. The Permittee shall comply with the Floodplain Regulations of Mecklenburg County and the Code of the City of Charlotte, Chapter 9 - the Floodplain Regulations of Charlotte North Carolina.

III.K.2. At the end of each work day, the Permittee will ensure that all containers are double stacked in accordance with Permit Condition III.C and Attachment G-7 of the Application.

III.K.3. At the end of each work day, the Permittee will ensure that the trailer doors in Area #6 are closed and locked and the trailers will be secured to the docking area by a manner of tie-down agreed upon by the Permittee and the Department. The manner of tie-down shall be decided upon and implemented by the effective date of this Permit.

III.K.4. At the end of each work day, the Permittee will ensure that the Feed Tank in Area #4 is at least one third full as specified in Figure G-7 of the Application.

As part of their application, Detrex has provided buoyancy calculations to show that, when stacked the full containers (drums) will not float during a 100-year flood event. Detrex also provided buoyancy calculations indicating totes used for storage will likewise not float. These calculations are included with this letter for your review.

While Detrex did provide buoyancy calculations for the storage trailers outside of the building, these were insufficient to show that the trailers would not float during a flood. Therefore the HWS decided to include the tying down of the trailers in Permit Condition III.K.3.

If you have any further questions or require any further information, please do not hesitate to contact me at (919) 508-8548 or kathleen.lawson@ncdenr.gov. I thank you in advance for your formal opinion on this demonstration and the associated special provisions.

Sincerely,

Kathleen Z. Lawson
Facility Management Branch
Hazardous Waste Section

Enclosure

cc: Dexter Matthews
Elizabeth Cannon
Resident Inspector

Bud McCarty
Vance Jackson
Kathleen Z. Lawson

Date: 11.11.09
Revision: 09-1

ATTACHMENT G-7
BUOYANCY CALCULATIONS

TANKS

Feed tank

- MOC: 304 SS
- SS Density: 0.29 lbs/in^3 (501 lbs/ft^3)
- Dimenstions see Attachment D6
- Legs angle iron (hollow)
- Weight estimated at about 1,000 lbs empty

The tank is elevated from the floor on angle iron legs; the volume of water displaced by the legs is assumed negligable.

The bottom of the cone on the tank is 24 inches from the floor. At a height of 3 feet, the bottom cone on the tank is submurged; this corresponds to a displaced water weight of 461 lbs. Each additional foot above the cone displaces an additional 1,384 lbs of water.

Therefore, even at the current 100-year flood plane depth of 2.6 feet, the empty tank will not be buoyant.

The facility can address future flood levels by either keeping the tank empty or filling it with an appropriate amount of material. At the future flood height of 4.8 feet, just over 330 gallons (1/3 full) will ensure the tank would not be buoyant at specific gravities of less than one.

Specific Gravity		0.8	0.9	1.0	1.1	1.2
Weight of tank & contents		3199	3474	3749	4024	4299
Height of water	lbs water displaced	AIW				
3 feet	461	2738	3013	3288	3563	3838
4 feet	1845	1354	1629	1904	2179	2454
4.8 feet	2952	247	522	797	1072	1347
5 feet	3229	B	245	520	795	1070
5.2 feet	3506	B	B	243	518	793

Date: 11.11.09
Revision: 09-1

ATTACHMENT G-7
BUOYANCY CALCULATIONS

TOTES

Various totes are used at the site. The totes are elevated from the ground approximately six inches. Totes will hold either still bottoms OR product. Totes of product will be full; however, the weight in totes holding still bottoms can vary. Buoyancy of product totes are based on them being filled with TCE.

PLASTIC TOTES

Plastic totes are 41" square.
This equates to 0.972 ft^3 per inch of height, or 60.56 lbs/in for the displacement of water.
The totes are elevated off the ground by about six inches. For calculation purposes, this displacement volume is estimated at 5 gallons (41.65 lbs).

The 275 gallon unit is 42" tall and weighs 140 lbs
The 330 gallon unit is 48" tall and weighs 170 lbs

Product

Container size		275 G	330 G
Weight of tote & contents		3495	4196
Height of water	lbs water displaced	Buoyant (B)/ Non-Buoyant (NB)	
4.8 feet	3092	NB	NB
5 feet	3310	NB	NB
5.2 feet	3455	NB	NB

Still Bottoms

SG = 0.8		275 G	330 G
Height of water	lbs water displaced	Liquid height in tote to be Non-Buoyant	
3 feet	1858	2.91 feet	2.88 feet
3.4 feet	2147	3.5 feet	3.45 feet
3.85 feet	2480	B	4 feet

48.45 lb/in based on still bottoms in tote

Date: 11.11.09
Revision: 09-1

ATTACHMENT G-7
BUOYANCY CALCULATIONS

STAINLESS STEEL (SS) TOTES

The 330 gallon SS totes are 41" x 41" x 48" tall. This equates to 0.972 ft^3 (7.27 gallons) per inch of height. This equates to 0.972 ft^3 per inch of height, or 60.56 lbs/in for the displacement of water.
The totes are elevated off the ground by about six inches. For calculation purposes, this displacement volume is estimated at 5 gallons (41.65 lbs).
The tote weighs 840 lbs.

The 350 gallon SS totes are 41" x 48" x 48" tall. This equates to 1.14 ft^3 (8.5 gallons) per inch of height, or 70.81 lbs/in for the displacement of water.
The totes are elevated off the ground by about six inches. For calculation purposes, this displacement volume is estimated at 5 gallons (41.65 lbs).
The tote weighs 880 lbs.

330 gallon tote		PRODUCT	STILL BOTTOM
		4618 lbs (tote & TCE) (944.4 lbs/ft)	Liquid height for NB (585 lbs/ft)
Height of water	lbs water displaced		
4 feet	2586	NB	3 feet
4.8 feet	3170	NB	4 feet
5 feet	3310	NB	B

NB = Non-buoyant
B = buoyant

350 gallon tote		PRODUCT	STILL BOTTOM
		5286 lbs (tote & TCE) (1101 lbs/ft)	Liquid height for NB (684.9 lbs/ft)
Height of water	lbs water displaced		
4 feet	3019	NB	3.1 feet
4.7 feet	3620	NB	4.4 feet
6.6 feet	4723	B	B

NB = Non-buoyant
B = buoyant

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

OCT 11 2011

Ms. Kathleen Z. Lawson, Environmental Engineer
Facility Management Branch
Hazardous Waste Section
North Carolina Department of Environment
and Natural Resources
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Dear Ms. Lawson:

Thank you for your letter dated June 21, 2010, to Otis Johnson, Jr., Chief of the Environmental Protection Agency Region 4 RCRA Division Permits and State Programs Section. In the letter you requested that EPA provide a technical opinion with respect to whether the Detrex Corporation, in its application to renew the permit for its facility located at 3114 Cullman Avenue, Charlotte, North Carolina (hereinafter "Facility"), successfully demonstrated that the Facility meets regulatory requirements for preventing hazardous waste from washing into the environment during a flood event.

The background information that you provided and which we utilized is briefly summarized as follows: The Facility is a hazardous waste storage and treatment facility, a part of which is located in the 100-year flood plain of Little Sugar Creek in Charlotte, North Carolina. Detrex Corporation (Detrex), as the owner and operator of the Facility, recently submitted a RCRA permit application to the North Carolina Department of Environment and Natural Resources (NCDENR) to renew the Facility's RCRA permit. North Carolina's requirements for the facility located in a 100-year flood plain, reflects standards which in part are more stringent than analogous federal requirements found at Title 40 of the Code of Federal Regulations (CFR) §264.18(b) and §270.14(b)(11). The Facility has been operating at its current location as a hazardous waste management facility since 1969, which pre-dates the Subtitle C requirements of the Solid Waste Disposal Act (SWDA), as amended and the analogous regulatory requirements found in Title 15A of the North Carolina Administrative Code. Finally, the Facility experienced periods of flooding in July 1997 and again in 2008.

In September 2009, NCDENR solicited comments from the public on a draft RCRA permit for the Facility. Representatives of two organizations commented on the draft permit; one commenter favored renewal of the permit while the other opposed renewal. Comments provided by both organizations highlighted the Facility's location in a flood plain.

The EPA Region 4 has completed its review of these and other facts and computations you shared with us regarding the Facility's washout demonstration. In addition to your letter of June 10, 2010, Detrex's four (4) buoyancy calculations are enclosed with this letter as appendixes to EPA's enclosed analysis of Detrex's washout demonstration. To very briefly summarize our enclosed analysis, the Agency has concluded that the Facility meets federal floodplain standards and permit application requirements. And it is our opinion that the Facility has successfully demonstrated that, during a flood event, there will be

no adverse effects on human health or the environment from the Facility. Please note however, that our conclusion is predicated on several presumptions; these presumptions are set out more fully in the enclosed analysis and are summarized briefly as follows:

1. The owner and operator of the Facility submitted a complete RCRA permit renewal application;

2. As part of the material reflected in its renewal application, the owner and operator of the Facility utilized a flood map equivalent to one prepared by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA), and the map is determinative of the Facility's location in a 100-year flood plain; and,

3. The owner and operator of the Facility collaborated with local and State emergency planning committees throughout the RCRA permit renewal process in order to comply with preparedness and prevention standards set out in 40 CFR Part 264 Subpart C and the contingency planning standards of 40 CFR Part 264 Subpart D.

EPA's engineering analysis and conclusion may be found in the first enclosure with this letter. We commend NCDENR for adding four special conditions to the draft RCRA permit to augment the washout prevention measures proposed by Detrex, and wish to offer one additional special condition for your consideration, as follows. On March 5, 2010, the EPA issued a memorandum addressing preparedness and prevention requirements for RCRA Treatment Storage and Disposal Facilities (TSDFs), a copy of which is enclosed (the memorandum). On page 6 of the memorandum, the EPA notes that many states require owners and operators of RCRA facilities to furnish emergency planning and response information in electronic format to facilitate storage and retrieval of the information by emergency responders on laptops and other portable electronic devices. In the memorandum, the EPA encourages states to include in RCRA permits a condition requiring the owners and operators of RCRA TSDFs to submit emergency planning information to state and local emergency planning organizations in electronic format so that it can be easily integrated, stored, and retrieved with other emergency response information. As a matter of policy, the EPA recommends that RCRA TSDFs be required to use a national web-based tool known as "E-Plan," which allows RCRA TSDFs to update their hazardous waste inventories on a daily basis. In this instance, we recommend that NCDENR consider requiring the Facility to report its inventories to State and local emergency planning committees using E-Plan or an equivalent database in a special condition of the renewal permit.

In addition, the EPA encourages NCDENR to ensure that the owner of the culvert down gradient of the Facility prevent the culvert on their property from clogging with debris, hence reducing the risk of flooding in the vicinity of the Facility. Requiring that a screen or similar barrier be erected is recommended.

Finally, in the course of our review we had the occasion to access information from pages on various web sites, including the web site of the North Carolina Secretary of State's. From this information we prepared a summary document noted as "Authority to Operate," which we have also enclosed. The information that was gathered appears to raise some questions with respect to the role of a corporation named Parts Cleaning Technologies of North Carolina, Inc., and the potential for its corporate involvement at some point in time as an owner or operator of the Facility. It should be noted, however, that this information derives solely from internet based resources, and we have not

investigated further to verify either the companies' involvement or their current corporate status. Accordingly, I am referring this information to the attention of the authorized North Carolina hazardous waste program for appropriate follow-up.

If you have any questions, please feel free to direct them to me at 404-562-8527, Otis Johnson, Jr. at 404-562-8481, or Syed Ahmed of the RCRA Permits and State Programs Section at 404 562-8471.

Sincerely,

Jon D. Johnston

Jon D. Johnston, Chief
RCRA Programs and Materials
Management Branch
RCRA Division

Enclosures:

1. EPA's Engineering Analysis of Detrex Corporation's Washout Demonstration
   a.) NCDENR letter of June 21, 2010
   b.) Detrex's Buoyancy Calculations, Four (4)
2. EPA's Memorandum on Preparedness and Prevention Requirements for RCRA TSDFs dated March 5, 2010
3. Authority to Operate

cc: Elizabeth Cannon, Chief
Hazardous Waste Section, NC DENR

bcc: G. Alan Farmer, Director
RCRA Division, EPA Region 4

Greg Luetscher, OEA

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Detrex Corporation Public Hearing Transcript

October 29, 2009

Main Library Dalton Conference Room

310 N. Tryon Street

Charlotte, North Carolina

Jackson: It is now 1:10 p.m. and this public hearing is now called to order. First of all welcome to everybody. Thank you for coming out today. My name is Vance Jackson and I work for North Carolina's Hazardous Waste Section. Today we are holding a public hearing to obtain your comments, questions and concerns about our proposal to issue Detrex Corporation, located at 3114 Cullman Avenue in Charlotte, North Carolina, a renewal operating permit according to North Carolina's Solid and Hazardous Waste Rules and Amendments. Detrex needs this permit to continue storing and treating hazardous waste and to conduct corrective action at the Detrex Corporation facility in Charlotte, North Carolina. The United States Environmental Protection Agency has authorized North Carolina's Department of Environment and Natural Resources to issue Hazardous Waste Management Permits under the Resource Conservation and Recovery Act including the Hazardous and Solid Waste Amendments of 1994. For more details, see Chapter 130A of

North Carolina's Solid Waste Management Act. The Act is available at 401 Oberlin Road, Suite 150, Raleigh, North Carolina and on line at www.envhelp.com under "Laws and Regulations." Everyone here today has been invited to comment on the proposed renewal permit and its conditions for Detrex Corporation. To make sure everyone gets a chance to speak, we ask that you limit your comments to five minutes. If you prefer, you can submit your comments in writing, or you can speak and submit written comments. Just make sure your comments arrive at the North Carolina's Hazardous Waste Section before November 11, 2009, which is the last day of the comment period. We will be accepting comments this afternoon. We will not be responding to those comments as the comments need to be thoroughly researched with regard to the permit before answers can be given. We will evaluate every comment we receive and will respond to all comments in writing. If you wish to receive a copy of the response to the comments please sign the appropriate sign-up sheet at the side of the room. If you'd like to speak today, please sign the appropriate sign-up sheet in the side of the room prior to or immediately after speaking. If you wish to have written comments or if you have written comments, we will collect them at the end of the meeting so that you can mail them to the address in the

Public Notice, copies of which are beside the sign-up sheets. Now we will hear from the North Carolina Hazardous Waste Section's Permit Writer for Detrex Corporation, Kathy Lawson, who has a brief description of Detrex Corporation and the proposed renewal permit. Afterwards, we will open the floor to your comments.

Lawson: Good afternoon. My name is Kathy Lawson and I also work for North Carolina's Hazardous Waste Section. The state has prepared a draft renewal permit for Detrex Corporation in Charlotte to store hazardous waste and conduct corrective action. The actions that Detrex Corporation describes in their application meet North Carolina's Solid Waste and Hazardous Waste Rules and Amendments. The North Carolina renewal permit specifies that Detrex may store a maximum of 26,400 gallons of hazardous waste in containers and 1,000 gallons of chlorinated solvents in tanks. The containerized wastes will be stored in four areas. Container Storage Areas Numbers 1, 2 and 3 are located inside the building and consist of the original concrete slab floor with 4 inch thick, 3-1/2 inch high concrete curbing providing secondary containment. Area Number 1 has a maximum capacity of 8,800 gallons, Area Number 2 has a maximum capacity of 6,600

gallons and Area Number 3 has a maximum capacity of 4,400 gallons. The fourth area is the loading dock area, also known as Area Number 6. It has a maximum capacity of 6,600 gallons. Two tractor trailers will be used for the storage of hazardous waste in this area. Secondary containment for each tractor trailer will be provided by a metal plate which forms a sealed pan having the dimensions of the interior of the trailer. Treatment of hazardous waste will be by distillation of solvents and bulking of waste in the 1,000-gallon tank used for storage of the chlorinated solvents. The area of the Detrex facility subject to corrective action are those solid waste management units which have released hazardous waste or hazardous constituents to the environment. The RCRA Facility Assessment Report identified seven solid waste management units and one area of concern. Five of the solid waste management units are units regulated by the operating part of the renewal permit. A RCRA Facility Investigation has been conducted by the facility. Upon review and approval of the results of this investigation, Detrex must perform corrective action for all releases of hazardous waste or constituents at the facility. North Carolina's Hazardous Waste Rules guarantee the public has 45 days to comment on draft permits. The first day of the period was September

27, 2009. You can view the draft permit for yourself in the Hazardous Waste Section File Room at 401 Oberlin Road, Suite 150, Raleigh, North Carolina from 9:00 a.m. until 4:00 p.m. Please call for an appointment first at area code (919) 508-8400 and ask for the Hazardous Waste File Room. In addition to the draft permit, any other data submitted by Detrex Corporation to obtain this permit is also available for your review. If you'd like to comment orally on either the proposed permit or any of its conditions, please sign up prior to speaking at the side of the room, or mail your comments to the address in the Public Notice. We need all comments by Wednesday, November 11, 2009, which is the last day of the 45 day comment period. Before the Hazardous Waste Section makes the final decision to issue the renewal permit, we will review all of the comments we receive. Included with the permit decision will be a written response to all comments received. Everyone who makes oral and/or written comments will receive a notice, along with the written response to your comments, when the Hazardous Waste Section decides to issue, deny or modify the permit. If you do not wish to make comments but still wish to receive a notice of permit decision along with the response to comments, you may sign up to receive the notification. This sign-up sheet is also

located in the side of the room. We ask that you fill out these sign-up sheets so that we can get a copy of the decision to issue, modify or deny the renewal permit along with a copy of the response to comments to you.

Jackson: So before we start listening to your comments, are there any questions about the procedure? No questions. If you wish to sign up to make oral comments, please do so at this time or at the conclusion of your comments and the floor is now open for your comments. Please state your name and affiliation at the beginning of your comments.

McCormack: My name is Garry McCormack. I am a Battalion Chief of Charlotte Fire Department in charge of the Hazardous Materials Program and also the Hazardous Materials Tier 2 Coordinator for the City of Charlotte and Mecklenburg County. I have got written comments for both North Carolina and for Detrex which is the exact same written comments and I'll cover what, uh, what I have basically in my letter, what my one concern still is. Let me start off by saying that the, uh, that I've worked with Detrex in the past and they have been responsive and indicate willingness to work with us and my purpose of these comments is not to do anything to degrade or deny a permit, I just want to

make sure that we go on record or document it because of the flooding concerns that we have in the areas down there. I received a copy of their contingency plan dated April 7th, 2009. I replied in a written letter to them May 5th, 2009. A letter went to North Carolina Division of Hazardous Waste and also to Detrex. They have worked on and changed their contingency plan on one of my two issues of concern. And that was clarification that the responders to their facility in their contingency plan was their emergency contract responders, not to be confused with responders such as first responders; police, fire, E.M.S. They did make those changes there. The second part is, and it's still up in the air, and that was the procedures for initiating the plan during a flooding event. Section Three, or Section G-4d, Section 4 indicates that the EC will monitor for rising water levels in the street, and that's in quotation marks. That's word for word out of their plan. I want to reiterate again just like I did in the May 5th, 2009 letter that once the water level reaches the street, the street will be closed. At that point in time, there will be no transportation in and out of the facilities due to the hazards of vehicles driving through water and that stuff. My concerns with that if they're using the water level to come to the street to determine

the trigger event of do we move the chemicals, do we initiate our plan, that's almost too late at that point in time. I do not have a solution other than that I'm just requesting that be addressed more in depth in their plan as to methods to initiate their plan other than water in the street. Because at that point in time, Sugar Creek, Little Sugar Creek will have already been up out of their bounds, banks and if it goes into the street, it's, it'll considered to be a rising level event. And that's pretty much is in those two written comments that we have there. And that actually goes back to actual history that we stood side by side on one major flooding event and there's been over the years, the last ten years, There's probably been three or four events where it's actually got up in the street: two of them considered major. I think the one in the late nineties and then the one from about 2008. We need to do the exact dates. I will say that what, what assisted the flooding, they have no control over which is as the stream and water level rises, it floats dumpsters from upstream customers out of their parking lot. And when those dumpsters come down they get caught in the drainage culvert that runs under the switching track for Norfolk-Southern. And then once that occurs, it's like plug in the bath tub and then the waters rapidly rise and then it's

just in a matter of twenty or thirty minutes, it will come out over the bank. And that's pretty much the nature of what I would like just like to see addressed a little bit more fully in their plan. U.S.G.S. does have upstream flood indication monitors. I don't know whether there's any tie in to those. They also have rain gauges out and about where we receive notices of flooding which is generally how we have been notified, the fire department, that once these stream gauges reach a certain point, or if they rise so much in a short period of time, we get emergency notification through the stream gauges and that stuff. That may be one alternative they would actually request before it gets out of the banks and stuff if they have access to that type of information available from the internet. That's just a thought trying a system with some alternate plans.

Jackson: Are there any other comments?

[No Response]

Jackson: If there are no other comments regarding the proposed renewal permit for Detrex Corporation in Charlotte, then this hearing is declared closed and the time is 1:26 p.m.